DOCUMENT RESUME

ED 329 315 JC 910 149

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TITLE Matriculation: A Report on Third-Year Implementation, 1989-90.
INSTITUTION California Community Colleges, Sacramento. Board of Governors.; California Community Colleges, Sacramento. Office of the Chancellor.
PUB DATE Mar 91
NOTE 92p.; Discussed as agenda item 13 at a meeting of the Board of Governors of the California Community Colleges (Stockton, CA, March 14-15, 1991).
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Academic Achievement; Academic Persistence; Ancillary School Services; College Admission; *Community Colleges; Counseling Services; *Educational Legislation; Educational Policy; Government School Relationship; Minimum Competencies; Program Effectiveness; Program Evaluation; Remedial Instruction; School Orientation; Self Evaluation (Groups); *Student Personnel Services; Student Placement; Two Year Colleges; Two Year College Students
IDENTIFIERS *California Community Colleges

ABSTRACT

In California's community colleges, matriculation refers to the broad array of state-mandated efforts, including entry testing, placement, special counseling, remediation, and other academic and support services designed to help promote and sustain the efforts of credit students to succeed in their educational endeavors. This 1989-90 report details the third year of progress of the colleges toward full implementation of matriculation. Significant findings of the report include the following: (1) students with precollege level skills who received two or more matriculation services earned a grade point average (GPA) of 2.07 compared to students with similar skills who received only the admission component and earned a cumulative GPA of 1.33; (2) 87% of the students receiving full matriculation services persisted from fall 1989 to spring 1990, compared to 70% of the students receiving admissions services only; (3) the total number of students receiving orientation services increased from 61,000 in 1987-88 to 424,081 in 1989-90; (4) during this same period, the number of students receiving assessment services increased from 96,000 to 482,008, and the number receiving counseling/advising services increased from 181,000 to 929,287; and (5) matriculation has been costing more than originally estimated, with the districts making up the difference beyond their required commitment. Data tables and bar graphs are included, and copies of matriculation legislation, and a summary of conclusions and recommendations are appended. (GFW)

ED329315

# MATRICULATION: A REPORT ON THIRD-YEAR IMPLEMENTATION: 1989-90

13

A Report

Staff Presentation: Thelma Scott-Skillman, Vice Chancellor
Student Services

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Matriculation

Board of Governors
California Community Colleges
March 14-15, 1991
Stockton, California

JC 910149

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Board of Governors
California Community Colleges
March 14-15, 1991

# MATRICULATION: A REPORT ON THIRD-YEAR IMPLEMENTATION: 1989-90

13

A Report

## Background

Matriculation is a process that enhances access to the California Community Colleges and promotes and sustains the efforts of credit students to succeed in their educational endeavors. The goals of matriculation are to ensure that all students complete their college courses, persist to the next academic term, and achieve their educational objectives.

In 1986, the Seymour-Campbell Matriculation Act (Assembly Bill 3) was passed by the Legislature and signed by the Governor (Chapter 1467, Statutes of 1986). This statute directs that, on or before March 15 of each year, the Chancellor is to submit an annual progress report to the Legislature on the implementation of matriculation.

In January 1987, the Board of Governors adopted a detailed plan for implementing matriculation. Colleges began to implement their specific plans, although only 20 percent of the anticipated State funding was allocated in the 1987-88 budget, and only 60 percent was provided in 1988-89. The districts received the full amount of their allocations for the 1989-90 and 1990-91 academic years. Because of the limited funding during the initial years of matriculation, the Chancellor established June 30, 1991 as the date for full implementation.

In May 1990, the Board adopted Title 5 regulations on matriculation that took effect in July 1990. By the following December, the colleges had completed new matriculation plans detailing the college activities and efforts for fully implementing matriculation, consistent with Assembly Bill 3 and Title 5 regulations.

## Analysis

This report on the progress of the Community Colleges toward full implementation of matriculation during 1989-90 is based upon information gathered by the Matriculation Unit of the Chancellor's Office, the Evaluation and Training Institute (ETI),

an independent consultant, and by research conducted by the Chancellor's Office Research and Analysis Unit. Data were derived from 1989-90 Matriculation Progress and Expenditure Reports submitted by the colleges, ETI's college visits and surveys, Chancellor's Office site evaluations, and the twelve-college student services research project.

Colleges and districts continue to make substantial progress toward full implementation of matriculation. Districts demonstrated their commitment to matriculation by matching State funding at a greater percentage than required by law and by adding significant numbers of classified and certificated positions to implement the services. The number of students served in all matriculation components has increased dramatically since 1987. The scope and types of services in each component have increased since 1988-89, and research findings show a strong, positive relationship between matriculation services and student success.

Significant findings include:

- Matriculation services appear to improve the academic performance of students, particularly on the part of those whose entering language and computational skills are at the pre-collegiate level and those who come from disadvantaged socioeconomic backgrounds. For example, students with <13 skill levels who received two or more matriculation services earned a cumulative grade point average (GPA) of 2.07, compared to students with similar skills who received only the admissions component and earned a cumulative GPA of 1.33.

- The provision of full matriculation services produces markedly better results than does the provision of partial matriculation services.

- Students who participated in the matriculation process persisted at significantly higher rates than those who did not. Eighty-seven percent of the student who received full matriculation services persisted from the Fall Term 1989 into the Spring Term 1990, in contrast to 70 percent of those who received admissions services only.

- The number of students who received orientation services increased from 61,000 in 1987-88 to 424,081 in 1989-90. There has been a significant expansion in the scope, variety, and frequency of orientation services, as well as in the number and types of college staff who provide them.

- The number of students who received assessment services increased from 96,000 in 1987-88 to 482,008 in 1989-90. Colleges have greatly expanded the scope and level of their assessment services, with the percentage reporting they were able to assess all non-exempt students increasing by 20 percent between 1988-89 and 1989-90.

- The number of students who received counseling/advising services increased from 181,000 in 1987-88 to 929,287 in 1989-90. Counselors assume primary responsibility for the delivery of several components, and a total of 205 new FTE counseling positions has been added to college staffs since 1987.

- The number of students who received follow-up services increased from 445,000 in 1988-89 to 526,044 in 1989-90.

- The colleges have displayed limited ability to meet the institutional research requirements of matriculation. The Chancellor's Office needs to work with the colleges to develop an integrated program of institutional research at the State and local levels that will meet the requirements of AB 3 and the Title 5 regulations.

- The districts and State together spent $179 million on matriculation in 1989-90. Matriculation is costing more than originally estimated: last year, the difference was covered by a higher-than-required district fiscal commitment to matriculation – 82 percent versus the required 75 percent. The higher costs are a reflection of an expanded scope of program services as defined by the Board and Title 5 regulations, which go beyond those upon which the original cost model was built in 1983-84.

Matriculation does not impede access to the community colleges, nor does it exclude students from educational programs or services. But matriculation *has* brought to light the extensive need for basic skills among community college students and the limited ability of the colleges to meet that need, even though students enrollment in basic skills increased 24 percent in just one year, between 1988-89 and 1989-90.

In 1989-90, the colleges identified significantly fewer barriers to the implementation of matriculation than in the past. Increased State and local funding translated into more staff positions and enhanced data processing systems, and the Chancellor's Office was generally perceived to be providing a higher level of assistance to the colleges. There was also a significant decrease in the reported skepticism regarding continued State funding of matriculation.

But the increase in the level and scope of matriculation services appeared to outpace the colleges' ability to add sufficient staff and computer support. Limited staffing, limited data processing support, and limited funding continued to be identified as the major barriers to implementing matriculation. Limited facilities and delays in full implementation of the statewide Management Information System (MIS) were also cited, but these affected particular components or services.

The community college system is making excellent progress towards full implementation of matriculation, given the comprehensiveness of the process, the limited funding prior to 1989-90, and the partially operating statewide information system. During 1990-91, colleges and districts will: continue towards full implementation of

all matriculation components, conduct research on student and institutional outcomes, and implement the newly developed matriculation plans. The Matriculation Unit will continue to offer technical assistance to the colleges and districts and will continue to coordinate with the Research and Analysis Unit for ongoing evaluation of student outcomes related to matriculation. In addition, the Matriculation Unit will coordinate with the Academic Affairs Unit, the MIS Division, other agencies, and the Legislature to enhance matriculation support services for California's community college students.

This agenda item presents for Board of Governors approval a progress report on the third-year implementation of its matriculation plan, which will be transmitted to the Legislature pursuant to Assembly Bill 3.

*Staff Presentation:* *Thelma Scott-Skillman, Vice Chancellor*
*Student Services*

*Karen Halliday*
*Matriculation*

# MATRICULATION

## A Report on Third-Year Implementation

1989-90

Board of Governors
California Community Colleges

# MATRICULATION

## A Report on Third-Year Implementation
1989-90

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# MATRICULATION

## A Report on Third-Year Implementation
## 1989-90

### Executive Summary

Matriculation is a process that enhances access to the California Community Colleges and promotes and sustains the efforts of credit students to succeed in their educational endeavors. The goals of matriculation are to ensure that all students complete their college courses, persist to the next academic term, and achieve their educational objectives.

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Colleges and districts continue to make substantial progress toward full implementation of matriculation. Districts demonstrated their commitment to matriculation by matching State funding at a greater percentage than required by law and by adding significant numbers of classified and certificated positions to implement the services. The number of students served by all components of the matriculation process has increased dramatically since 1987. The scope and types of services in each component have increased since 1988-89, and research findings show a strong positive relationship between matriculation services and student success.

Significant findings include:

- Matriculation services appear to improve student academic performance, particularly on the part of those whose entering language and computational skills are at the pre-collegiate level and those who come from disadvantaged socioeconomic backgrounds. For example, students with < 13 skill levels who received two or more matriculation services or components earned a cumulative college grade point average (GPA) of 2.07, compared to students with similar skills who received only the admissions component and earned a cumulative GPA of 1.33.

- The provision of full matriculation services produces markedly better results than does the provision of partial matriculation services.

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- The districts and state together spent $179 million on matriculation in 1989-90. Matriculation is costing more than originally estimated: last year the difference was covered by a higher-than-required district fiscal commitment to matriculation – 82 percent versus the required 75 percent. The higher costs are a reflection of an expanded scope of program services as defined by the Board and Title 5 regulations, which go beyond those on which the original cost model was built in 1983-84.

Matriculation does not impede access to the community colleges, nor does it exclude students from educational programs or services. But matriculation *has* brought to light the extensive need for basic skills among community college students and the limited ability of the colleges to meet that need even though student enrollment in basic skills increased by 24 percent in just one year, between 1988-89 and 1989-90.

In 1989-90, the Community Colleges identified significantly fewer barriers to the implementation of matriculation than in the past. Increased state and local funding translated into more staff positions and enhanced data processing systems, and the Chancellor's Office was generally perceived to be providing a higher level of assistance to the colleges. There was also a significant decrease in the reported skepticism regarding the continued State funding of matriculation.

But the increase in the level and scope of matriculation services appeared to outpace the colleges' ability to add sufficient staff and computer support. Limited staffing, limited data processing support, and limited funding continued to be identified as the major barriers to implementing matriculation. Limited facilities and delays in full implementation of the statewide MIS were also cited, but these affected particular components or services.

The community college system is making excellent progress towards full implementation of matriculation, given the comprehensiveness of the process, the limited funding prior to 1989-90, and the partially operating statewide information system. During 1990-91, colleges and districts will: continue towards full implementation of all matriculation components, conduct research on student and institutional outcomes; and implement the newly developed matriculation plans. The Matriculation Unit will continue to offer technical assistance to the colleges and districts and will continue to coordinate with the Research Unit for ongoing evaluation of student outcomes related to matriculation. In addition, the Matriculation Unit will coordinate with the Academic Affairs Unit, the MIS Division, other agencies, and the Legislature to enhance matriculation support services for California's community college students.

## History

In the late 1970s, a concern emerged in the statewide Academic Senate for California Community Colleges that academic standards were declining and, with them, the quality of educational programs. In response to that concern, the Senate adopted a resolution in the fall of 1982 entitled, "Matriculated Student." The resolution stated that community college students seeking a degree or certificate be designated as "matriculated" and be held to certain requirements in order to maintain that status.

The following April, the Chancellor appointed the Task Force on Academic Quality to review several interrelated issues, including a model process that would help community college students define their educational goals and make appropriate educational choices to achieve them. This defined assistance to students was the primary concept from which matriculation was developed. In June 1983, the Board of Governors approved a model for student matriculation that was piloted in 16 community colleges over the next 12 months. Following a year of study and refinement, the Board adopted *Student Matriculation: A Plan for Implementation in the California Community Colleges* (June, 1984).

During the 1984 legislative session, a bill to implement matriculation was sponsored by the Board of Governors and carried by Senator John Seymour; additionally, another bill supporting matriculation was carried by Assemblyman Robert Campbell. However, the passage of matriculation legislation was delayed due to the state's uncertain economic condition and a legislative call for a study of the community colleges' mission. Nonetheless, enthusiasm for matriculation remained high. During the 1985 legislative session, Senator Seymour and Assemblyman Campbell merged their bills, resulting in Assembly Bill 3. Notwithstanding this legislative progress, further consideration of matriculation was deferred until the mission study was completed.

When the Master Plan Review Commission endorsed the concept of matriculation in March, 1986, the Board of Governors renewed its efforts on behalf of AB 3. The Seymour-Campbell Matriculation Act was passed in 1986, but lack of funding prevented its provisions from being implemented.

In its 1987-88 budget request to the Governor, the Board asked for funding for matriculation, and in the spring of 1987, updated its 1984 plan for implementing matriculation. However, it was not until January 1988, that funding was allocated for initial implementation activities, but even then districts received only 20 percent ($7 million) of the estimated State share of matriculation's operating costs. For the 1988-89 academic year, funding from the State was increased to $20 million, or approximately 60 percent of the State's share of operating costs. During the 1989-90 fiscal year, matriculation was funded by the state at the level originally identified as that needed for "full" implementation – $37 million.

## Matriculation Purpose and Goals

The purpose of matriculation is to ensure students: 1) access to a community college; 2) equitable opportunities for a quality education; and 3) successful attainment of their educational objectives. All of these are to be facilitated through the use of appropriate college programs and courses and with a full range of support services and student-directed information.

In the Board's 1987 student matriculation plan, two primary goals were set: *student success* and *institutional effectiveness*. These goals remain crucial to the perception and understanding of the matriculation process.

*Student success* requires that the institution assist students to make educational choices by utilizing multiple assessment measures for course placement advice and a conscientiously applied supportive service strategy. Through comprehensive orientations in which educational programs, facilities, resources, and support services are described, students are made aware of the institution's commitment to student achievement. This achievement is further aided by the institution's interaction with the student to strengthen motivation, provide frequent feedback on students' performance and generally encourage students to define educational goals that may be realized with effort and supportive assistance.

*Institutional effectiveness* is determined by the effective and efficient use of the institution's resources as well as the resolve to provide additional resources as needed. In this regard, the retention of students is achieved, in part, by the institution's efficient delivery of services and programs coupled with appropriate curricular changes and development. This strengthening of the institution through an effective matriculation process extends to the increased ability of the districts and colleges to:

1. Identify more the educational needs and objectives of students via the assessment process and use of the student education plan;

2. Assure that campus supportive services are fully utilized by students;

3. Increase the participation and incorporation of all students, regardless of their educational preparation and consistent with the mission of the community colleges;

4. Provide sufficient staff to meet student needs;

5. Develop a program of institutional research and evaluation that will identify the extent to which the matriculation process contributes to students' successful achievement of their objectives; and

6. Increase the opportunities for instructional faculty to interact in their classes with students who are motivated to learn and properly assisted when making their course selections appropriate to their skills and academic potential.

## Components of Matriculation

The matriculation process consists of seven components. Five of these provide direct services to students, and two assist the colleges and districts in developing their capabilities for evaluation, compliance, coordination, and analysis.

**Admissions**: The admissions component includes application procedures, initial collection of student information such as an applicant's need for support services and the number of hours worked, although the latter is not collected by all colleges or required for this component; referrals to other college services and resources; and support of the registration process.

**Orientation**: In this component students are provided an explanation of academic and vocational programs, an understanding of the college's procedures with respect to student and staff conduct, locations of facilities and services, and transfer and career opportunities. In addition, students are given a description of their rights and the method by which they may file grievances, and they receive explanations of their obligations to the institution and the mutual responsibilities of the college and student. While new students are generally the focus of orientation, it is available to all students, including those continuing at the institution. Orientation is provided in a variety of ways, including large groups, one-to-one contact by a counselor or instructor, extended orientation courses, and video presentations.

**Assessment**: Colleges draw on a wide variety of methods to provide students with information that helps them better understand their aptitudes, career plans and interests, study skills, English-language proficiency, abilities in various subjects, and past academic performance. For matriculation purposes, colleges assess students through a wide variety of methods and consider such diverse measures as placement test scores, numbers of hours worked, numbers of semesters or quarters out of school, high school grade point average, transfer grade point average, type of English and/or mathematics classes successfully completed, and so forth. The assessment process provides findings central to the colleges' examination of curricula, course content, and the use of assessment itself for placement decisions.

**Counseling/Advising**: This component provides contact between the student and professional staff (counselors, advisors and/or instructors) for the purposes of interpreting and applying assessment findings; formulation of a student's education plan; discussion of educational or personal concerns; and monitoring of and guidance toward the student's educational goals. This service is available to all students throughout their community college careers.

**Follow-up**: In this component, students' academic progress is systematically monitored and, when necessary, appropriate intervention strategies are applied. Colleges have an array of mechanisms for monitoring students and increasing numbers are utilizing computer databases for this function. Instructors and counselors also contribute heavily to the follow-up effort through their contacts with students. On some campuses, "early alert" systems have been established to identify students who are beginning to experience difficulties in their courses before they encounter serious academic problems. While programs like EOPS and DSPS that work with specific student populations have traditionally had extensive follow-up procedures, matriculation has caused the institutions to apply methodologies to the entire credit student population.

**Research and Evaluation**: This component requires colleges to use and, in some cases, expand their data-collection and analysis capabilities to measure the effectiveness of the college's efforts to positively affect students' academic outcomes through the matriculation process. Although the capability to perform credible research varies from district to district, all colleges have begun some research on matriculation. These research studies will also help colleges evaluate matriculation services and identify areas in which improvement is needed and/or where a greater allocation of resources should be considered.

**Coordination and Training**: Coordination consists of the efforts to involve the broadest possible range of college staff and students in designing, implementing and evaluating matriculation services. Each college has designated a staff position responsible for coordinating the matriculation process. Hand in hand with coordination is effective training. Districts and colleges are addressing this need in a variety of ways and are developing methods to identify the particular training need, the persons or group who may require the training, and then, provide the training to a specific campus group, unit or division. In most colleges, the responsibility for training is shared among the matriculation coordinator, the advisory committee, and individual staff members or programs.

# Third-Year Implementation
*1989-90*

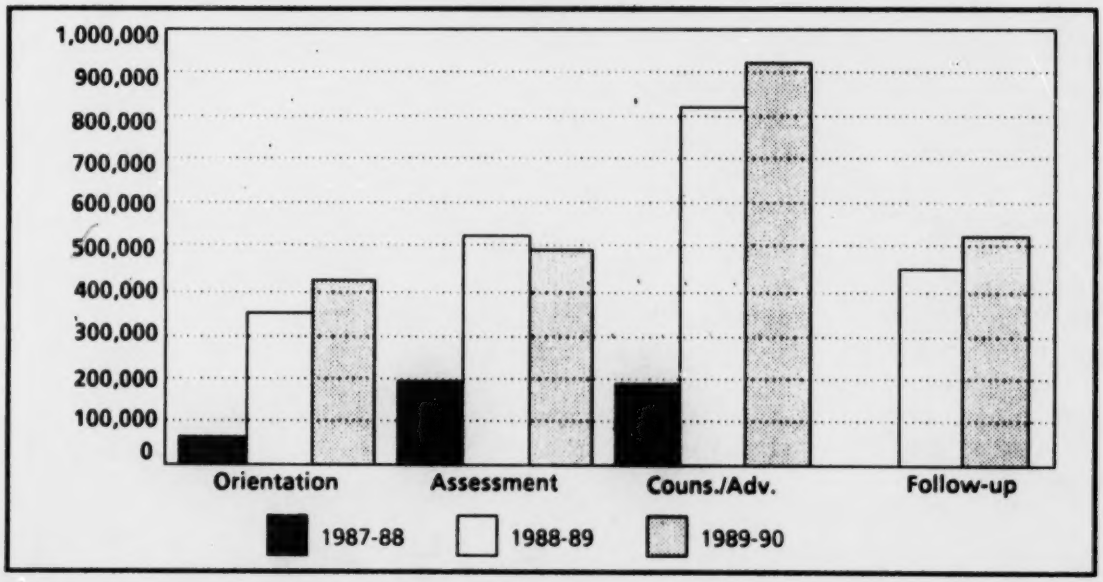
## Introduction

In 1989-90, for the first time, colleges received 100 percent of the State's contribution to matriculation. And in May 1990, the Board of Governors adopted Title 5 regulations for matriculation that are to be fully implemented by the districts and colleges by June 30, 1991. It is within this dual context of initial full funding and new State regulations that the colleges' progress toward full implementation of all matriculation components will be discussed. Their progress also will be viewed within the longer-term context of matriculation's development as a college-wide process. For example, the services provided by colleges in 1989-90 will be contrasted with those provided prior to the implementation of matriculation and those provided during matriculation's first two years of partial state funding (1987-88 and 1988-89).

During the 1989-90 academic year, California's community colleges served approximately 1.4 million (fall and spring) students through one or more components of matriculation. The largest number of students were served by admissions, followed by counseling/ advising, follow-up and assessment. Although limited funding and limited staffing continued to be cited as problems by the colleges, higher numbers of students were served in all matriculation components except assessment (Figure 1) and the range of services within each component expanded significantly.

**Figure 1**

**Students Served**



This report is organized around the seven components of matriculation; an analysis of the cost of implementing matriculation; the reported barriers to fully implementing the components; the impact of matriculation on students and the colleges to date; and the activities that will be conducted by the districts, colleges and the Chancellor's Office in 1990-91 to bring the matriculation process to full implementation at all 106 of the state's community colleges.

## Admissions

*Requirements for Admissions*

Assembly Bill 3 and Title 5 require "processing of the application for admission." The Board's 1987 plan for implementing matriculation also recommended that:

- the admissions component assure that information about new students is obtained, sorted and capable of being utilized to assist the individual student;
- the Chancellor's Office and the districts/colleges use the application for admission as a source of student data for meeting local and statewide data requirements;
- data collected during the application process include information for determining a student's exemption status, need for additional or alternate assessment, goals, extra curricular interests, and transcripts for prior work according to locally determined; and that
- policies; and districts encourage early application by students.

*Implementation of the Admissions Component*

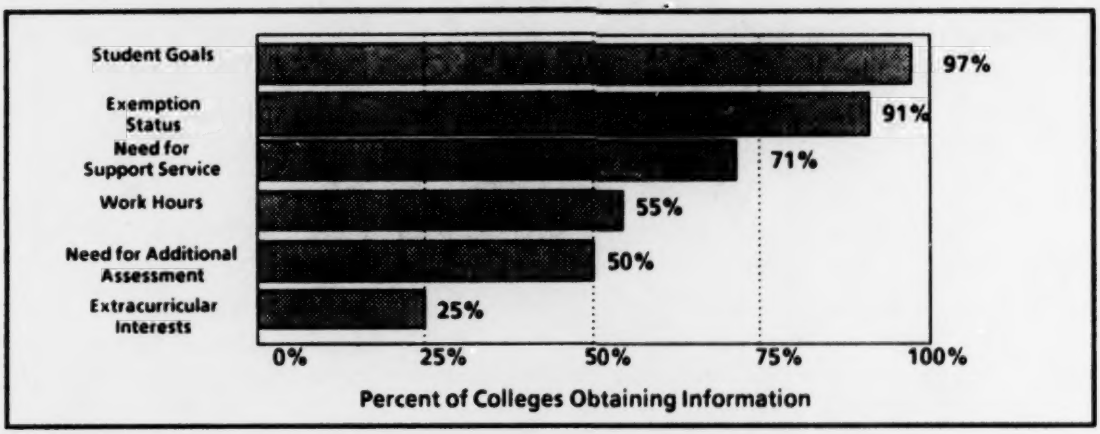
Colleges reported processing a slightly lower number of applications for admissions in 1989-90 than in 1988-89. In both years, over 1.75 million applications were processed. For 1989-90, the colleges also reported that almost 1.5 new and continuing students were enrolled and registered through the admissions component.

The types of information obtained through the application process during 1989-90 is illustrated in Figure 2.1. The data show that the great majority of colleges are collecting information related to students' goals and exemption status. This is a significant improvement over previous years, when ETI site visit findings indicated that most colleges did not have exemption information on an individual student basis.

**Figure 2.1**

**Types of Information Obtained on Application for Enrollment**

*1989-90*



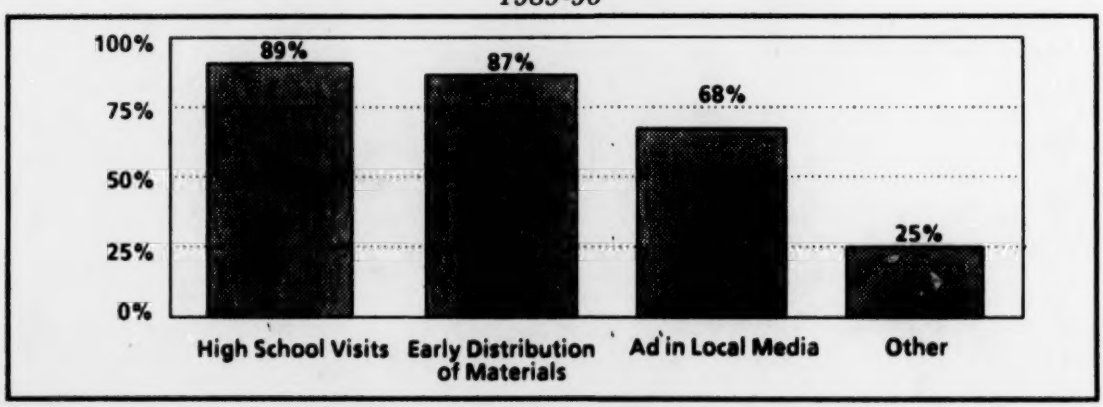

In addition to the data items recommended by the Board, a significant percentage of the colleges reported they collect information on applicants' need for support services and the number of hours they work.

Prior to the implementation of matriculation, 64 percent of the colleges reported that they encouraged early admissions, primarily through visits to local high schools. The great majority of colleges now encourage early admission through high school visits, as well as the early distribution of applications and course schedules as illustrated in Figure 2.2. Additionally, a significant proportion now place admissions information in local media.

**Figure 2.2**

**Methods for Encouraging Early Application**

*1989-90*



*Exemption Status*

Assembly Bill 3 mandates that the Board establish criteria "for exempting students from participation in orientation, assessment testing, or required counseling/ advisement" under matriculation. Students' exemption status is most frequently identified at the time of admission. In meeting this legislative mandate, the Board referred the definition of exemption criteria to local boards of trustees, with the following recommendations:

- That, at a minimum, districts/colleges consider exempting from participation, students who: have completed an associate degree or higher; provide scores from recently taken skills tests comparable to those used by the college; or seek to enroll only in courses not dependent upon skill prerequisites;
- That districts not generally exempt students who: enroll only in evening classes; enroll in fewer than some number of units; do not wish to participate; are undecided about objectives; and do not intend to earn a degree or certificate; and
- That districts/colleges permit otherwise exempted students who wish to participate in orientation, assessment and/or counseling/advising components to be served.

The Title 5 matriculation regulations specify that colleges may not use any one of the following as the *sole criterion* for exempting a student from matriculation:

- The student has enrolled only in evening classes;
- The student has enrolled in fewer than some specified number of units;
- The student is undecided about his or her education goals; or
- The student does not intend to earn a degree or certificate.

Additionally, the regulations specify that refusal to participate in matriculation does not justify barring students from enrollment in courses, as long as the student meets "necessary and valid prerequisites, if any, which have been established."

In their initial plans for the implementation of matriculation, colleges identified a wide variety of criteria to be used to exempt students from participation in matriculation. Colleges have since focused upon a more limited set of conditions under which students may be exempted from the different components. The exemption criteria most commonly used in 1987-88, along with the percentage of colleges using these criteria relative to orientation, assessment, and counseling/advising in 1988-89 and 1989-90 is listed in Table 1.

## Table 1

## Exemption Criteria Proposed in 1987-88 and Implemented by Colleges

*1988-89 and 1989-90*

| | PROPOSED CRITERIA | IMPLEMENTED CRITERIA | | | | | |
|---|---|---|---|---|---|---|---|
| | 1987-88 Overall Proposed Exemption Criteria (%) | ORIENTATION | | ASSESSMENT | | COUNSELING | |
| | | 1988-89 (%) | 1989-90 (%) | 1988-89 (%) | 1989-90 (%) | 1988-89 (%) | 1989-90 (%) |
| Students who have completed an associate degree or higher | 92 | 44 | 38 | 52 | 60 | 27 | 40 |
| Students taking courses not dependent on skills prerequisites | 44 | 9 | 36 | 20 | 26 | 90 | 18 |
| Students transferring from other postsecondary institutions | 5 | 14 | 2 | 9 | 3 | 7 | 2 |
| Students enrolling fewer than some specified number of units | 19 | 10 | 25 | 14 | 19 | 8 | 26 |
| Students whose educational goal is "personal growth" | 20 | 9 | 6 | 10 | 21 | 10 | 16 |
| Students with previous English or math coursework | 15 | 6 | 4 | 18 | 41 | 6 | 9 |
| Continuing or returning transfer students to this institution | 5 | 12 | 16 | 7 | 5 | 3 | 3 |
| Students who have completed 30 or more units at the college | 1 | 7 | – | 9 | – | 6 | – |
| Students taking courses to upgrade occupations skills | 36 | 1 | 2 | 4 | 5 | 4 | 4 |
| Students receiving satisfactory scores for other standardized tests | 37 | – | 0 | – | 54 | – | 2 |

– Data not available for this year.

Most colleges have taken the approach that exempting certain students from one component does not necessarily justify their exemption from others. ETI's site-visit interviews and the Chancellor's Office research findings suggest that all students could benefit from at least some components of matriculation. For example, students who have already completed an advanced degree may not require assessment but could derive some benefit from being oriented to the college and receiving counseling regarding their current educational objectives.

*Summary*

The implementation of matriculation, in conjunction with the implementation of the statewide Management Information System (MIS), has led to a change and expansion in the types of information collected through the admissions process. It appears that the colleges are in the process of building student data systems that will provide the information needed to track and evaluate student needs at the local and systemwide levels.

## Orientation

*Requirements for Orientation*

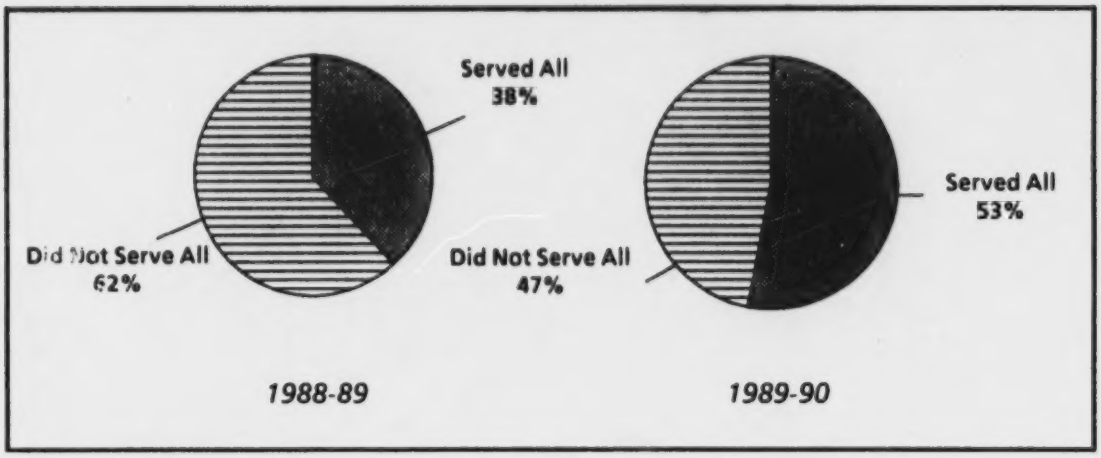
Assembly Bill 3 specifies that colleges provide "orientation and pre-orientation services designed to provide students, on a timely basis, information concerning campus procedures, academic expectations, financial assistance and any other matters the college or district finds appropriate." The Board's 1987 plan for matriculation expanded upon the legislation to recommend that the orientation process begin prior to the time a student begins classes, and may extend beyond the beginning of classes; that districts/colleges consider using workstudy and/or other student employees to assist in orientation programs; and that districts/colleges consider using student body organizations in orientation programs. Finally, the Title 5 regulations add the requirement that orientation services be provided to non-exempt students and potential students, and that the topics covered include course scheduling, academic expectations, facilities and grounds, and institutional procedures.

*Implementation of Orientation*

In 1989-90, the colleges reported serving a total or 424,081 students through the orientation component, a 26 percent increase over the number served during 1988-89. As shown in Figure 3.1, a significantly greater proportion of the colleges reported that they were able to serve all non-exempt students in 1989-90 than in 1988-89.

**Figure 3.1**

**Percentage of Colleges Able to Serve All Non-Exempt Students Through Orientation**




The great majority of colleges complied with AB 3, the Board's 1987 plan and Title 5 regulations in providing students with a broad range of information on campus programs, services, procedures, and financial assistance. (See Figures 3.2 and 3.3.)

**Figure 3.2**

**Topics Covered in Orientation**

*1988-89 and 1989-90*

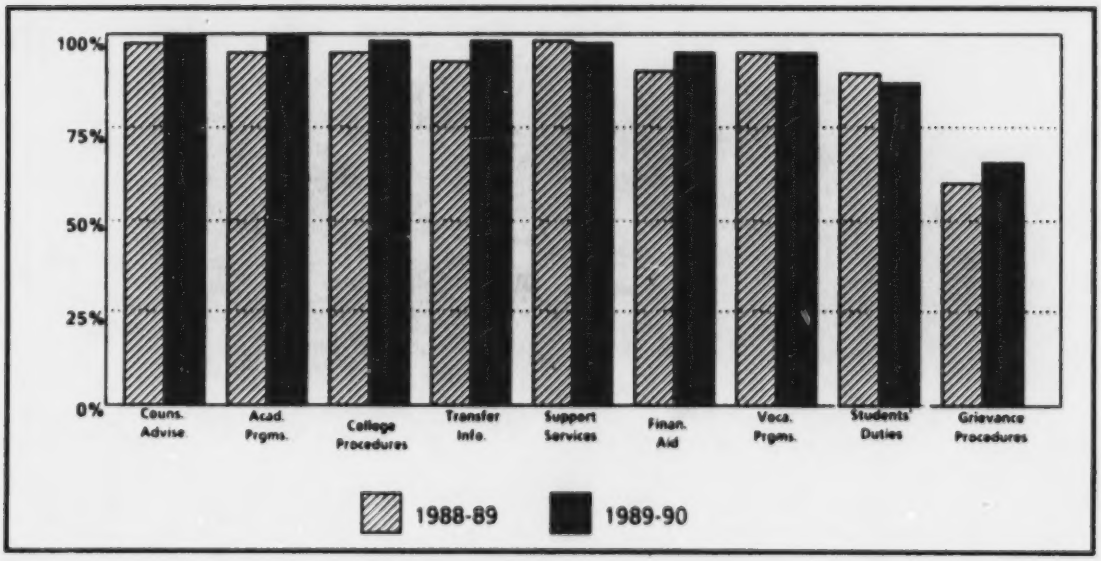
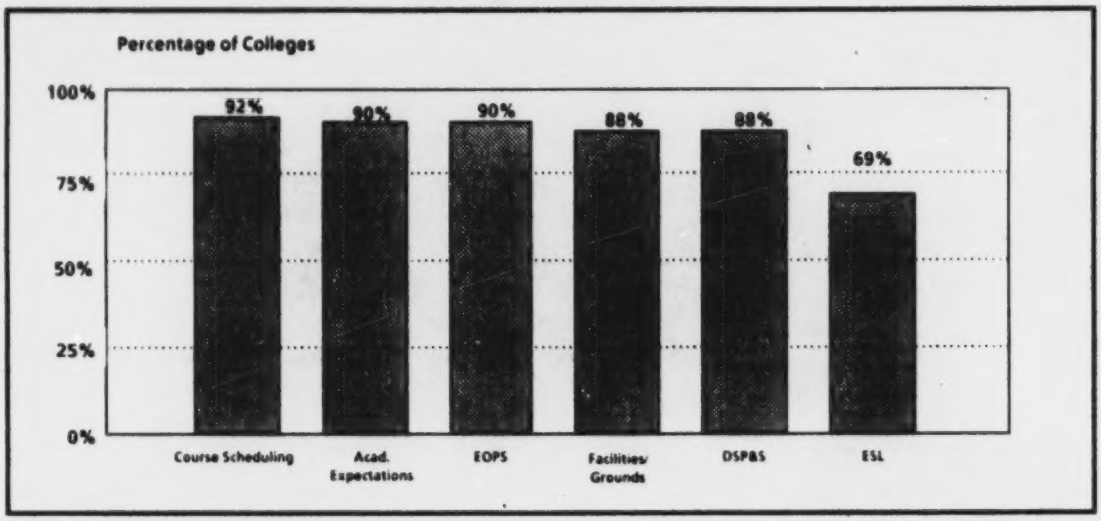


**Figure 3.3**

**Additional Topics Covered in Orientation**

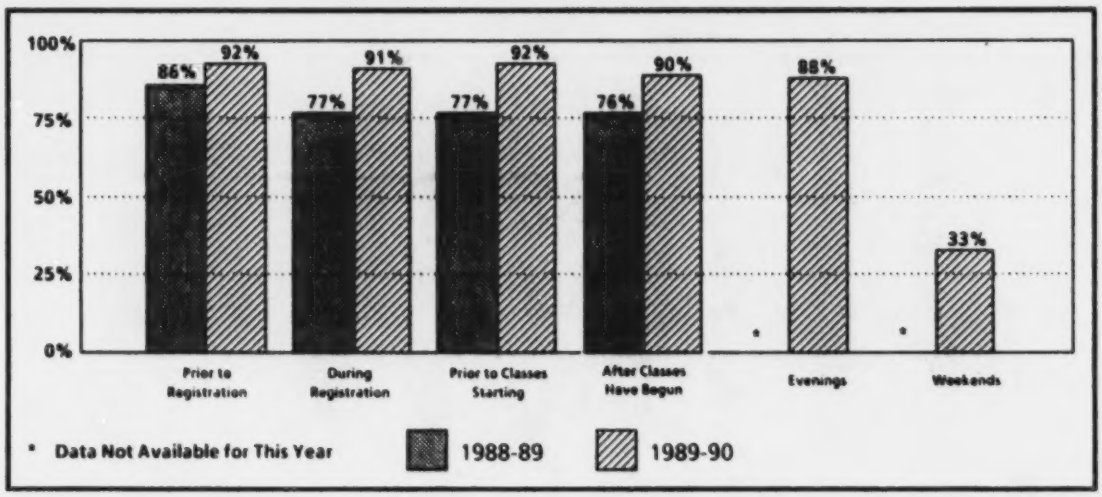
*1988-89 and 1989-90*




Over the past two years, access to orientation services has increased as more colleges offer these services over a broader time period. (See Figure 3.4.) This increase in

**Figure 3.4**

**Availability of Orientation Services**




services is even more apparent when the proportion of colleges offering orientation services after classes have begun is compared over the past three years. By 1989-90,

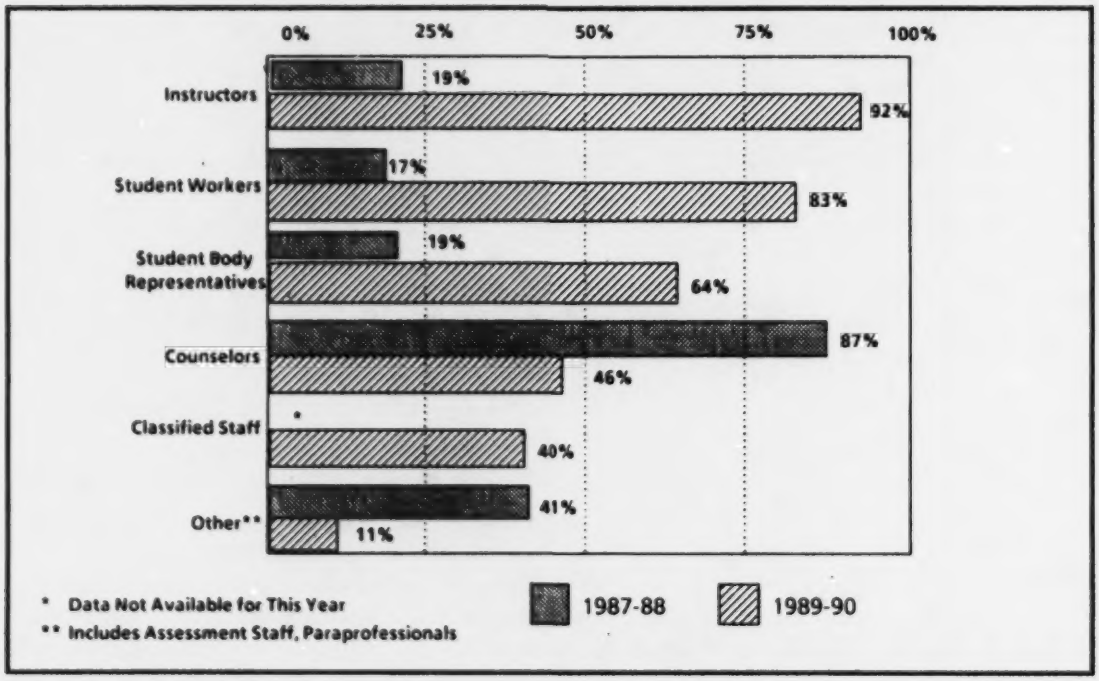
the percentage of colleges extending orientation beyond the start of classes had increased to 89 percent.

The ETI site visits also revealed information about the variety of forms orientation services are taking on the campuses, including a "Student Welcome Center" and different types of orientation courses. Two of the four colleges visited had produced videos that were used in orientation presentations as well as with individual students who were unable to attend presentations. All colleges had developed written orientation materials, including such items as student handbooks and brochures on the matriculation process itself.

As shown in Figure 3.5, the types of staff involved in orientation programs have changed dramatically over the last three years. Prior to the implementation of matriculation, counselors were the primary group involved in orientation. By 1989-90, the involvement of instructors and students had increased by almost five times. The involvement of students and student body organizations is one of the recommendations of the Board, and the progress reports indicated that the majority of colleges have incorporated these groups into their orientation process.

**Figure 3.5**

**Types of Staff Involved in Orientation Program**



*Summary*

Since the implementation of matriculation there has been a significant expansion in the scope, variety and frequency of orientation services. ETI's and the Chancellor's Office analyses of the colleges' progress reports and ETI site visits indicate that the great majority of colleges are meeting the requirements of the legislation and Title 5, as well as the recommendations of the Board's 1987 plan.

## Assessment

Assessment helps to identify the student's goals and skill levels, and to ensure that the student is properly advised of the appropriate courses and programs.

Section 78213 of the *Education Code* states:

> (a) No district or college may use any assessment instrument for the purposes of this article without the authorization of the chancellor. The chancellor may adopt a list of authorized assessment instruments pursuant to the policies and procedures developed pursuant to this section and the intent of this article. The chancellor may waive this requirement as to any assessment instrument pending evaluation.
>
> (b) The chancellor shall review all assessment instruments to ensure that they meet all of the following requirements:
>
> (1) Assessment instruments shall be sensitive to cultural and language differences between students.
>
> (2) Assessment instruments shall be used as an advisory tool to assist students in the selection of an educational program.
>
> (3) Assessment instruments shall not be used to exclude students from admission to community colleges.
>
> (c) The chancellor shall establish an advisory committee to review and make recommendations concerning all assessment instruments used by districts and colleges pursuant to this article.

*Implementation of Assessment*

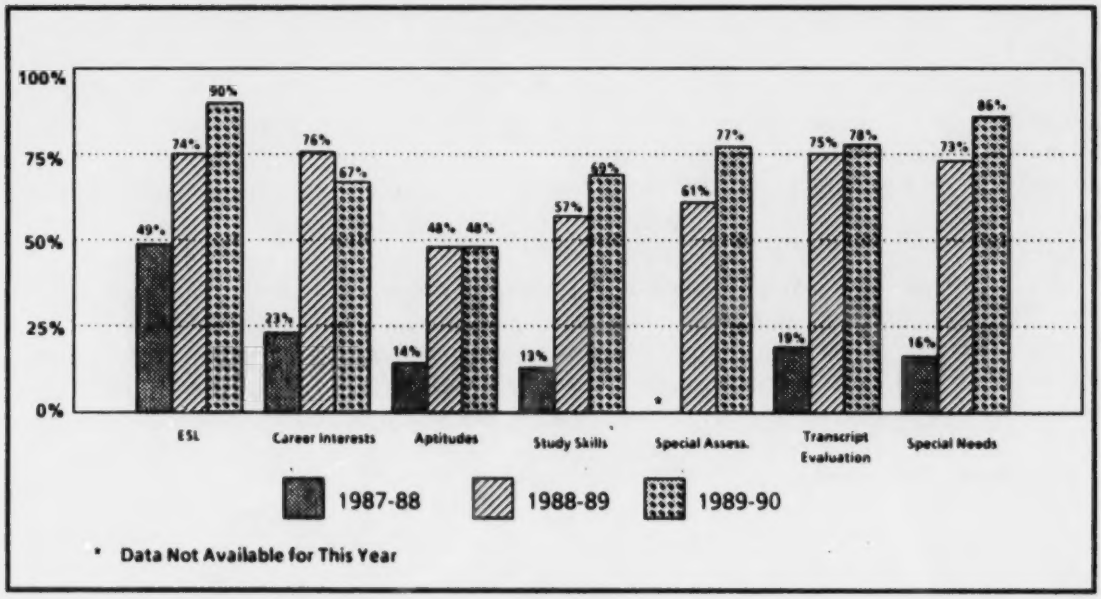
In 1989-90, the colleges reported assessing a total of 482,008 students, as compared to the 504,320 assessed in 1988-89. Despite the decline in raw numbers, however, the percentage of colleges reporting they were able to assess all non-exempt students increased by 20 percent between the two years. ETI believes the decline in the number of students begin assessed reflects wider application of the exemption criteria for this component.

Even prior to matriculation, almost all colleges assessed language and computational skills for those students seeking to enroll in college-level English and mathematics courses. The implementation of matriculation has meant, however, that these forms of assessment are now being provided to greater numbers of students.

Matriculation also has greatly expanded the range of assessment services provided students. As shown in Figure 4, less than one-fourth of the colleges offered the additional forms of assessment specified in AB 3 prior to the implementation of matriculation, except on a limited basis to students seeking special counseling or assistance. As of 1989-90, the majority of colleges reported a diverse array of assessment services were available to the general student population.

**Figure 4**

**Other Forms of Assessment Provided by the Colleges**




The majority of colleges have computerized the results of English-language and mathematics assessments. The computerization of other forms of assessment outcomes is less widespread, although the need for special support services was being identified in their progress reports by over 60 percent of the colleges.

In prior years, ETI's site visits revealed that although placement test results were entered into a computer, counseling staff at many campuses lacked the ability to access these data because of the absence or limited supply of computer terminals, or in some cases appropriate software. As of 1989-90, however, the majority of colleges reported that counselors had access to computerized assessment outcomes. Access

was also available on a slightly more limited basis to instructors and academic advisors. Despite the increase in computer access, ETI's site visit interviews also indicated that local college staff would like to have additional data processing support for the assessment component. Some colleges would like computerized scoring, or increases in the speed of existing computer scoring systems, to provide a more rapid turnaround in providing assessment results to students, especially during initial counseling sessions.

The vast majority of colleges reported that they use multiple measures in assessing and providing placement advice to students. In addition to standardized test outcomes, colleges reported that students' prior grades and their career and educational goals were considered in the assessment and placement process. Review of this information, in conjunction with a counselor's assessment of the student, was identified as the most common approach to providing a Multi-faceted assessment.

*Evaluation of Assessment Instruments and Practices*

A Matriculation Assessment Work Group has been established to develop standards and procedures to evaluate placement assessment instruments used to advise students in selecting courses. The group includes members from the Chancellor's Office, the districts and colleges, and the Center for Educational Testing and Evaluation at the University of Kansas (contracted specifically for this project).

During 1990, the assessment work group developed the *Standards, Policies and Procedures for the Evaluation of Assessment Instruments Used in the California Community Colleges.* This document contains four major sections. The first catalogues and details the purposes and appropriate uses of assessment as defined by matriculation legislation and Title 5 regulations. The second presents and discusses the assessment standards and criteria that are to be used in the review of placement instruments.

The third section of the *Standards, Policies and Procedures* presents more explicit standards and criteria for evaluating placement tests used in California's community colleges. These include content and predictive validity; reliability and errors of measurement; analysis for cultural/linguistic bias, insensitivity, and offensiveness; cut-off scores, and the impact of testing on various groups. The fourth section details the seven-step review process followed in determining the Chancellor's recommendations regarding the uses of placement tests. In addition, methodologies have been established that the colleges themselves will use when conducting their own review of placement instruments. In conjunction with college staff, the Chancellor's work group has begun the process of identifying, assembling, reviewing, and evaluating the instruments currently used in the community college system. It is expected that the Chancellor will establish an initial list of approved assessment instruments by July 1, 1991.

A *Matriculation Assessment Technical Manual* to assist districts and colleges in understanding the psychometric issues related to test standards was distributed to the field in August 1990. The Chancellor's Office conducted four workshops on the assessment process during the fall of 1990. Also, eleven research designs to assist colleges in validating instruments were developed by contracted community college researchers, and were distributed to the districts in February 1991. Psychometric consultants were contracted by the Chancellor's Office during 1990-91 to assist colleges and districts with test validation studies.

*Summary*

Matriculation has greatly expanded the scope and level of assessment services provided by the colleges, and has increased the number of colleges that maintain assessment results in a computerized form. The colleges have also adopted policies and procedures in line with Title 5 regulations regarding the range of assessments and the use of assessment outcomes. At a majority of colleges, however, full implementation of the assessment component requires the validation of assessment instruments, along with the expansion of local data processing support.

## Counseling/Advising

The counseling/advising component of matriculation provides contact between the student and college staff (counselors, advisors and/or instructors, and paraprofessionals) for the purpose of interpreting and applying assessment findings; formulation of a student's education plan; identification of personal concerns; monitoring follow-up; and guidance toward the student's goal. Counseling and advising are available at all stages of a student's college career, from initial orientation and registration to completion of his or her educational objectives.

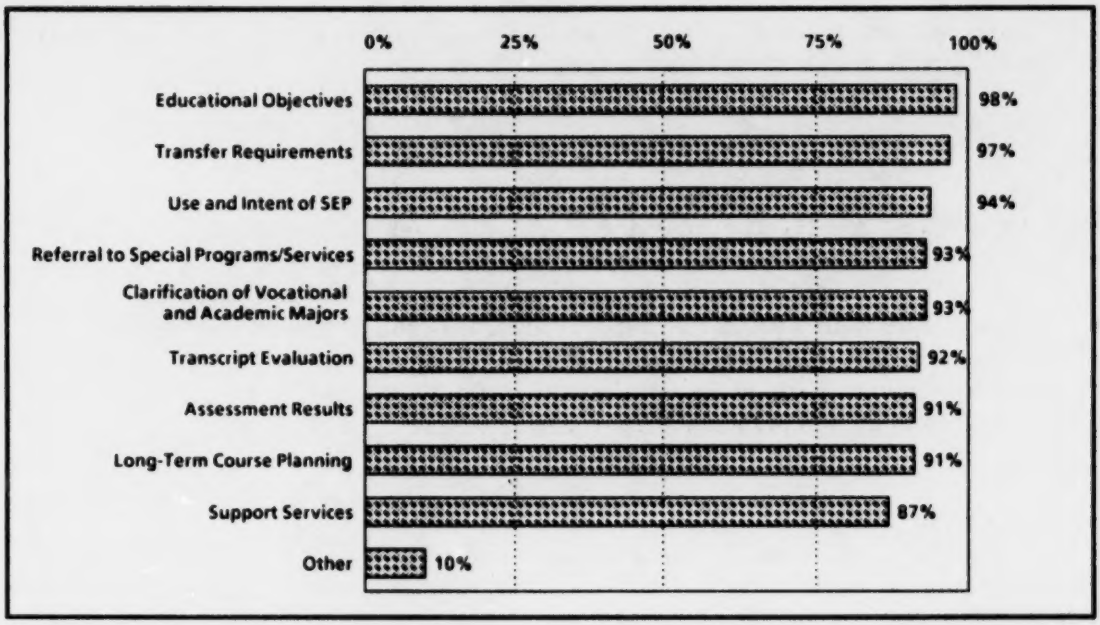
*Implementation of Counseling/Advising*

As shown in Figure 5.1, the majority of community colleges provide counseling that includes transfer requirements, clarification of vocational and academic majors, transcript evaluation, assessment results, and referral to special programs/services. The number of students receiving counseling/advising services increased from 181,000 in 1987-88 to 929,287 in 1989-90.

**Figure 5.1**

**Topics Covered with Students in Formulating SEPs**

*1989-90*




In addition, the majority of colleges fulfilled the recommendations of the Board of Governors to provide counseling and advisement related to the development of educational objectives, the use and intent of the Student Educational Plan (SEP), long-term course planning, and support services. Early registration, increased identification of students for follow-up counseling, and preparing/updating SEPs have increased the need for counseling services.

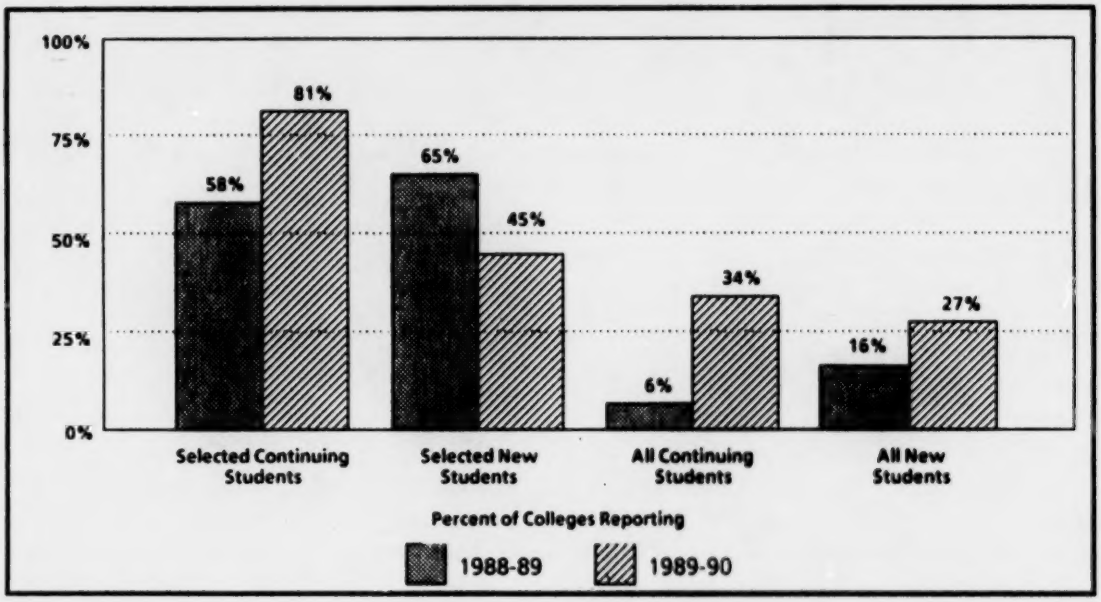
*Student Educational Plans*

Title 5 regulations require districts to provide those students who have selected their educational goals the opportunity to develop SEPs. An SEP should indicate courses, programs, and services required to achieve the stated goal. Moreover, the regulations require that the plan be reviewed as necessary to ensure that it continues to accurately reflect the needs and goals of the student. Within these parameters, each college retains the responsibility to decide the content and format of its SEP, when it is to be developed with the student, and the procedures for doing so.

The great majority of colleges have complied with the requirement to develop Student Educational Plans. Prior to the implementation of matriculation in 1987, only 27 percent of the colleges provided SEPs to students. According to data shown in Figure 5.2, there has been an increase in the number of colleges that provide SEPs to "all new students." This increase indicates the extent to which the development of SEPs has become an increasingly common experience for new students at the community colleges.

**Figure 5.2**

**Categories of Students Receiving Student Educational Plans**



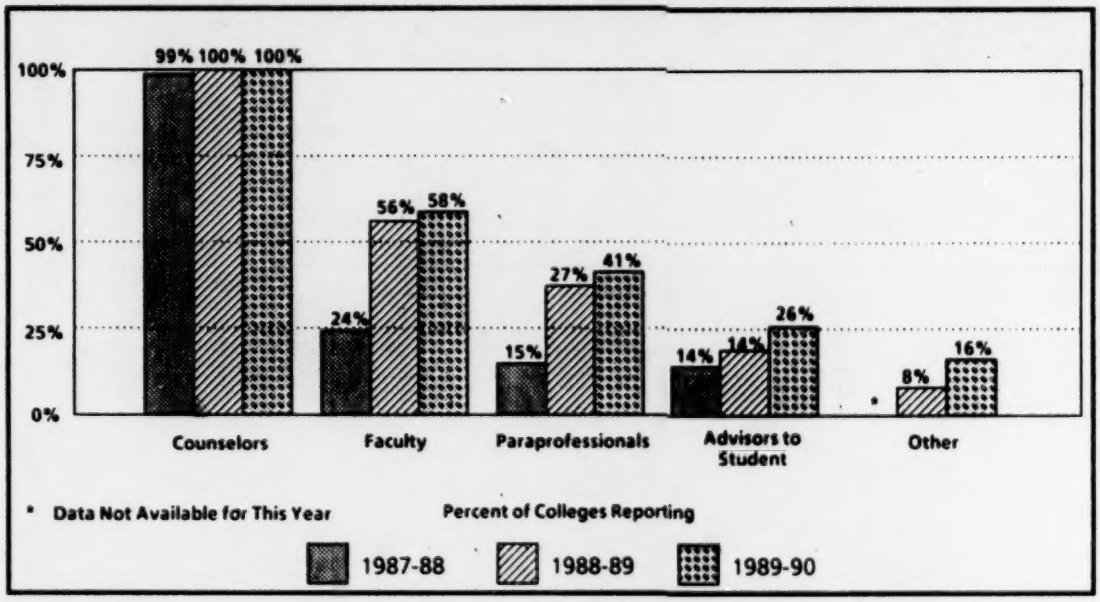

Many colleges report they lack sufficient support to computerize SEPs and therefore are unable to retrieve, edit, and update plans. Writing and editing SEPs manually is a cumbersome and monumental task, and a major factor in inhibiting the effective use of the educational plans.

In August 1990, the Chancellor's Office distributed a *Matriculation Resource Manual* to assist the colleges and districts in implementing matriculation. A section of the manual is devoted to the content and format of Student Educational Plans.

As shown in Figure 5.3, counselors continue to be the primary providers of counseling and advisement to students. Since the first year of State funding of matriculation, however, there has been a significant increase in the number of colleges enlisting instructional faculty, paraprofessionals, student advisors, and other personnel to assist with the counseling/advising component.

**Figure 5.3**

**Categories of College Staff Providing Counseling/Advisement to Students**




*Summary*

The colleges have made significant progress in implementing the counseling/advising component of matriculation, particularly with respect to the development and implementation of Student Educational Plans. However, the extent of counseling/ advising varies considerably from college to college. Colleges that have computerized their SEPs have surpassed other colleges in developing efficient systems for updating and revising plans, and have reduced the time needed to pull hard copies of SEPs.

As in previous years, colleges reported an increase in 1989-90 in counseling responsibilities created by matriculation requirements. Colleges continue to respond to the increase and demand for counseling services by hiring additional counselors, extending the length of counseling contracts, utilizing faculty advisors, student advisors, and paraprofessionals, and increasing the use of electronic technology. Many colleges utilize group counseling sessions to provide matriculating students with a package of basic information, augmenting these with individual counseling sessions as needed.

College personnel believe that matriculation has increased contact with a greater number of students, and that students are now receiving better information about available services and programs at the community colleges, and the steps necessary to reach educational goals. Chancellor's Office research supports this conclusion.

## Follow-up

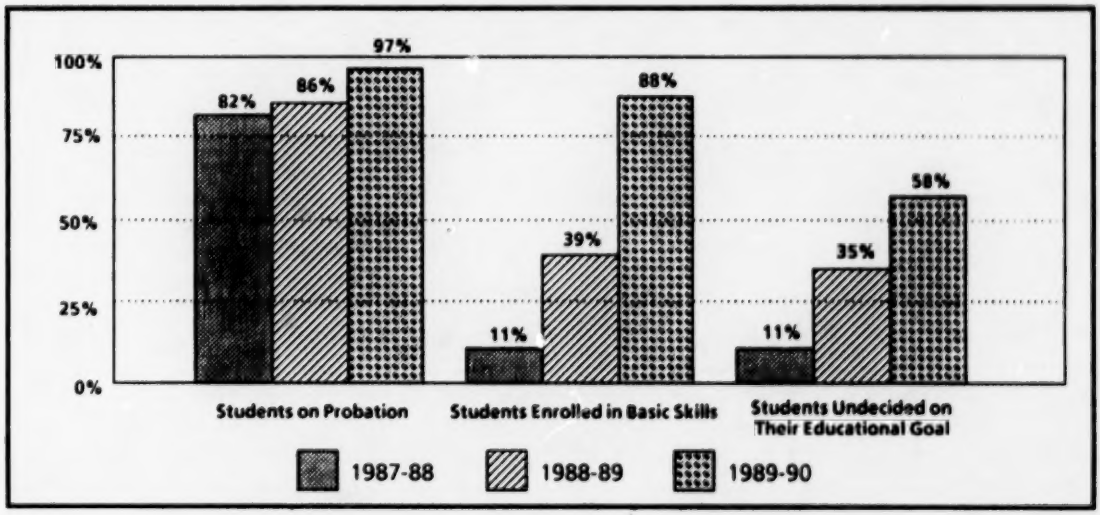
AB 3 specifies that the colleges are to provide post-enrollment evaluation of each student's progress, and required advisement or counseling for students who are enrolled in remedial courses, who have not declared an educational goal as required, and who are on academic probation. The Title 5 regulations require that each matriculating student be provided with advice or referral to specialized services or curriculum offerings where necessary.

### *Implementation of Follow-up*

In 1989-90, the colleges reported they had provided follow-up on 526,044 students, an increase of 80,000 over the number served in 1988-89. As shown in Figure 6.1, the

**Figure 6.1**

**Categories of Students Receiving Some Form of Follow-up**




percentage of colleges providing follow-up services has increased over the previous year in all three of the specially targeted student categories. With the identification of basic skills as a major issue in matriculation, the number of colleges providing follow-up services for basic skills students increased 49 percent over the previous year, and 77 percent over two years.

As shown in Figure 6.1, a majority of colleges use counseling contact to assist probationary and basic skills students. Follow-up services for probationary students generally required contact with the counseling department prior to completion of the registration process. Because of the student/instructor interaction in basic skills

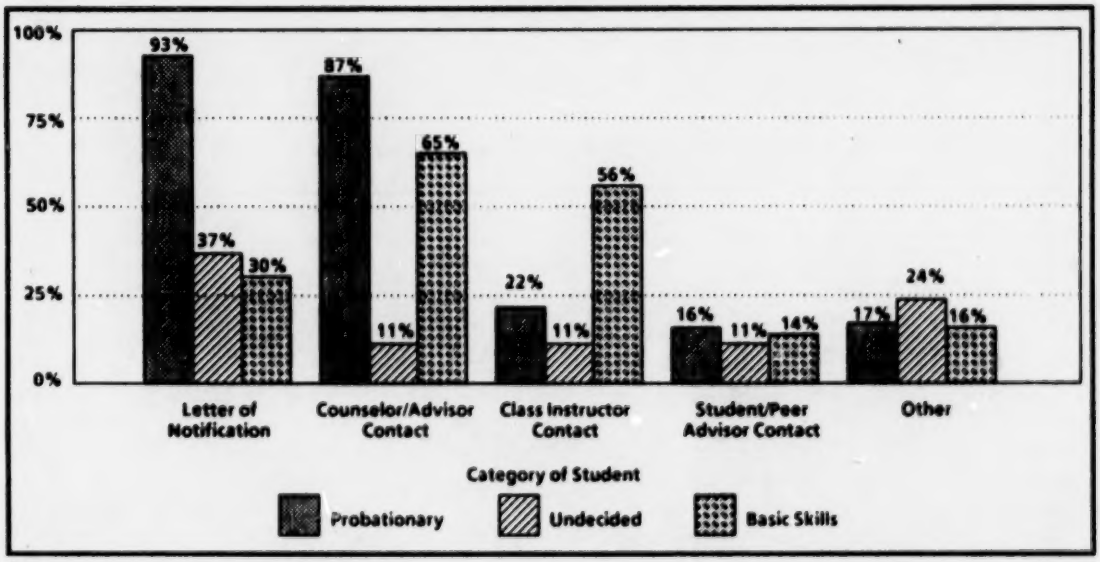
courses, and the importance of this contact, many colleges also reported instructor contact as a primary form of follow-up service for basic skills students.

The identification of students with additional service needs is performed in a variety of ways, as shown in Figure 6.2. The responsibility for identifying those students is undertaken by instructors, faculty, student services personnel, and the students themselves.

**Figure 6.2**

**Forms of Follow-up Provided Targeted Student Groups**

*1989-90*




Early-alert systems are designed to intervene on behalf of students at academic risk. In most such systems, instructors are asked early in the semester/quarter to identify students who have academic difficulties or attendance problems and refer them to counseling or other support services.

The statewide Academic Senate is conducting a study of various follow-up models. The Senate will develop a monograph on follow-up strategies, processes, and models, which will be disseminated to the colleges and districts.

*Summary*

There has been a dramatic increase in follow-up on students in basic skills and, to a somewhat more limited extent, to those undecided on their educational goals. While

steps are being taken at the colleges to comply with Title 5 regulations and fully implement the follow-up component, data processing and staffing barriers still remain.

Some colleges have stated that the process of follow-up is too labor intensive without computerization and imposes too heavy a burden on the counseling department and instructional faculty. Counselors and instructional faculty must create a coordinated and supportive process if follow-up services are to be fully implemented and effective.

## Coordination and Training

The coordination and training component addresses the need for local matriculation practices to be coherently implemented and for colleges to conduct staff development activities deemed critical for matriculation to succeed. The Board recommended that districts and colleges assign coordination responsibility to a single position with authority sufficient to encompass all of the matriculation activities.

### *Implementation of Coordination and Training*

Following the Board's recommendation, 84 percent of the districts/colleges have designated a single position with overall responsibility for coordinating matriculation. Among those, one-fourth had created a new position titled Dean of Matriculation or Matriculation Coordinator. Another one-fourth of the colleges assigned the responsibility to the chief administrator for student services. Among the remaining colleges, program responsibility was generally assigned to an individual who performed a number of functions in addition to coordinating matriculation. This was most commonly the case for smaller colleges, where the Matriculation Coordinator also served as Director of Counseling, Dean of Student Services, etc.

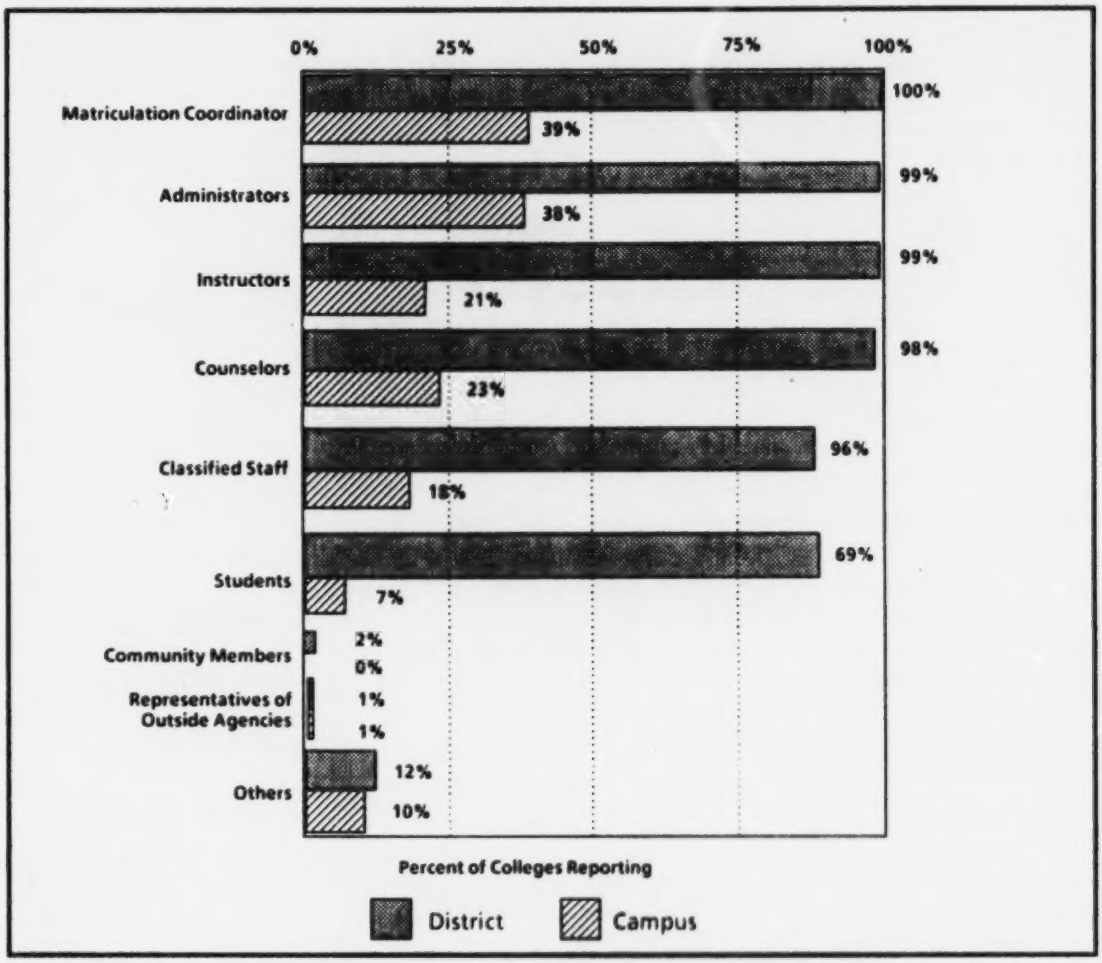
ETI site-visit interviews suggest, however, that at several colleges the matriculation coordinator lacks the necessary authority over the units/departments on campus involved with the process. In such cases, implementation is dependent upon the extent of support the coordinator receives from higher-level administrators. In addition to appointing a matriculation coordinator, the majority of districts/colleges have matriculation advisory committees to oversee the implementation of the process.

The composition of the matriculation advisory committee is different, but representatives of the various programs and services of the college serve as members, as shown in Figure 7.1. Campus committees always include the matriculation coordinator and representatives from student services.

**Figure 7.1**

**Composition of District and Campus Matriculation Advisory Committee**

*1989-90*




The majority of local advisory committees meet once a month or less. All of the colleges visited by ETI in 1989-90 believed that the advisory committees were the most effective means of identifying and solving matriculation-related problems, and intended to continue committee meetings in the future.

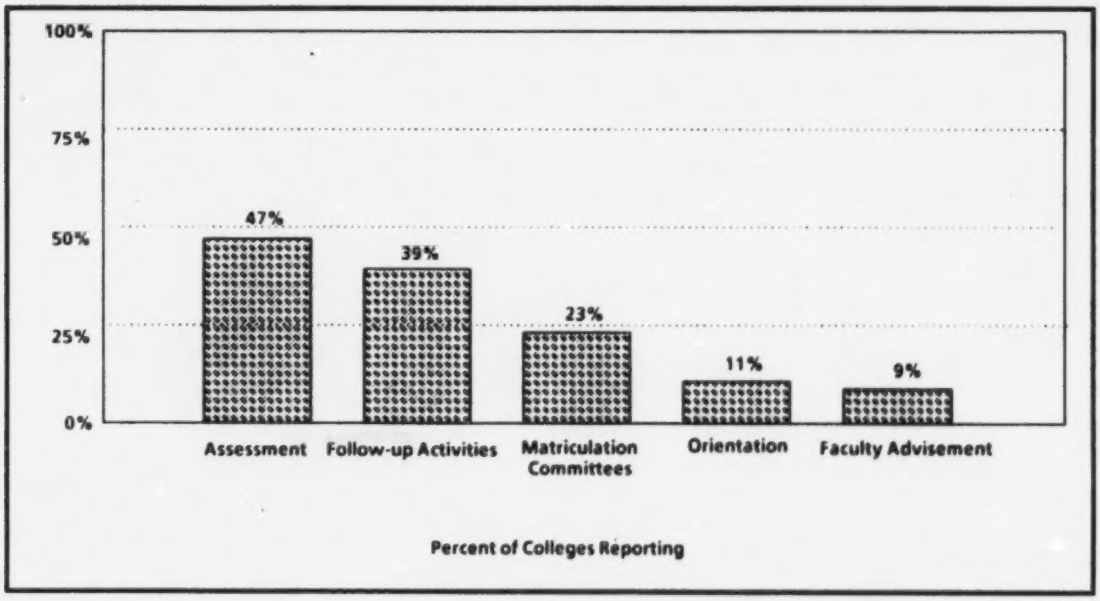
Staff training needs were determined in a variety of ways. Thirty-one percent of the colleges reported campus meetings as the source for identifying needs. Meetings of the matriculation advisory and staff development committees were reported as the primary source by 28 and 12 percent of the colleges, respectively. ETI site visits revealed that the appointment of a single coordinator helped in determining staff

training needs and 12 percent of the colleges reported that the matriculation coordinator filled that role.

In prior years, ETI site-visit interviews and telephone surveys of Matriculation Coordinators indicated that many student services staff were concerned about the lack of faculty involvement in matriculation. There was a wide-spread impression that matriculation was perceived by instructional faculty to be a student services program, and was not viewed as a campuswide reform effort, one with significant implications for instruction. To obtain some specific information on faculty involvement, colleges were asked to report the areas of matriculation in which instructional faculty on their campuses were most involved in 1989-90. (See Figure 7.2.)

**Figure 7.2**

**Areas of Matriculation in Which Instructional Faculty Are Most Involved**




Their responses indicate that faculty continue to be involved in assessment, an area in which they generally select assessment test instruments and establish and monitor cut-off scores for placement into mathematics and English courses. However, a significant number of colleges also indicated that instructional faculty were involved in student follow-up. Although almost all colleges reported instructional faculty were represented on local matriculation advisory committees, less than one quarter identified these committees as a major form of faculty involvement.

*Chancellor's Office Assistance with Coordination and Training*

To assist the colleges with coordination and training, the Chancellor's Office sponsored a Matriculation/Basic Skills Conference in April 1990, which was attended by 450 college personnel. The second conference is scheduled for May 1991, with 700 college staff and students expected to participate. During the summer of 1990, the Chancellor's Office distributed a Matriculation Resource Manual to each college and district matriculation coordinator. The manual contains the essential reports, legislation, documents, and technical assistance guides to assist the coordinators in implementing matriculation. In addition, the Chancellor's Office conducted several workshops throughout the state related to assessment standards, research studies, the new college matriculation program plans, and course-prerequisite issues.

Twenty-one site evaluations by Chancellor's Office and college matriculation staff will be conducted during 1990-91. The site evaluation is designed to provide: (1) formative evaluation information to the college regarding its implementation of the matriculation components; (2) the college with information that will be useful in preparing for the college's accreditation self-study process; (3) the Chancellor's Office with detailed information on the implementation of matriculation at individual colleges and with aggregated statewide information; and (4) matriculation staff at individual colleges the opportunity to exchange ideas and experiences with Chancellor's Office staff and with their colleagues from other colleges on the review team.

*Summary*

In keeping with the Board's recommendations, the majority of colleges have assigned administrative responsibility for the coordination of matriculation to a single person. Most colleges have also established campus-wide matriculation committees that include representatives of various units/departments along with faculty and students. ETI site-visit findings suggest that, at most colleges, the coordinator and committee function effectively, although in some instances coordinators have not been able to effect needed changes because of their lack of authority. Additionally, committee participation and involvement of instructional faculty appear to be limited.

The majority of colleges have addressed training for those departments/units most strongly affected by the matriculation. ETI site interviews suggest that college staff are informed about matriculation and the way it is being implemented on their campus. Additionally, it appears that college staff participate in matriculation-related activities sponsored by the Chancellor's Office, such as the annual Spring Conference, and generally keep abreast of Chancellor Office's directives and communications regarding the process. Still, adoption of regulations for matriculation will require that the colleges ensure that their training methods are consistent, complete, and applied to appropriate staff and faculty.

## Research and Evaluation

Assembly Bill 3 requires that local colleges conduct institutional research and evaluation to assess the institutions' effectiveness in attaining four specific objectives:

1. Helping students define their educational goals;

2. Assisting institutions in assessing students' educational needs;

3. Matching institutional resources with students' educational needs; and

4. Providing students with specialized support services.

In the Board of Governors 1987 plan for implementing matriculation, the recommendation was made that:

> . . . colleges/districts utilize data gathered from the various components of matriculation to develop an integrated, computerized data base that is useful for longitudinal research, planning, and evaluation of student outcomes and institutional programs and services.

This recommendation is an integral portion of a research effort that, for statewide evaluation of matriculation, varies significantly from one college to the next. Specific data collection requirements in this component are described in Title 5 matriculation regulations, which describe the parameters within which matriculation may be evaluated for effort, performance, efficiency, and process.

The variety of student data collected by colleges for matriculation research during 1989-90 and the extent to which colleges expanded their data collection to incorporate new elements has increased significantly (see Table 2).

**Table 2**

**Percentage of Colleges Collecting Data for Matriculation Research Activities**

| Data Collected | 1988-89 (%) | 1989-90 (%) | Change (%) |
|---|---|---|---|
| Grades | 90 | 97 | + 7 |
| Units Completed | 90 | 97 | + 7 |
| Units Attempted | 85 | 92 | + 5 |
| Grade Point Average (GPA) *(Cumulative)* | 83 | 92 | + 9 |
| Basic Skills Enrollments | 82 | 92 | + 10 |
| Grade Point Average (GPA) *(by Term)* | 82 | 92 | + 10 |

**Table 2** *(Continued)*

| Data Collected | 1988-89 (%) | 1989-90 (%) | Change (%) |
|---|---|---|---|
| Attrition Rates | 75 | 72 | - 3 |
| Age | 73 | 95 | + 12 |
| Certificates Awarded | 66 | 78 | + 12 |
| English as a Second Language (ESL) Enrollments | 64 | 84 | + 20 |
| High School Graduates | 64 | 90 | + 26 |
| Student Persistence Rates | 63 | 71 | + 8 |
| Diplomas Awarded | 60 | 82 | + 22 |
| Evening Students | 60 | 78 | + 18 |
| Citizenship Status | 51 | * | N/A |
| Counselor Contacts | 43 | * | N/A |
| General Education Diplomas (GEDs) | 34 | 50 | + 16 |
| Number of Referrals | 22 | 21 | - 1 |
| Number of Student Complaints Filed | * | 31 | N/A |
| Gender | * | 97 | N/A |
| Disability | * | 74 | N/A |
| Other | 22 | 21 | - 1 |

* Data not collected for this year
N/A – No comparison available

The extent to which student activity can be tracked consistently differs among the colleges and within their discrete components. Nearly 100 percent of the colleges can document the delivery of the admissions and assessment components. The majority of colleges can also document the delivery of orientation and counseling/advising services. However, fewer colleges have collected data that document the formulation of Student Educational Plans or follow-up services. Over one-fourth of the colleges still cannot track the delivery of services to students, which has hampered college efforts to identify the extent to which matriculation is helping students to define and reach their goals.

In recognition of the fact that some colleges lacked resources and experience with the research and evaluation component, research studies were developed by a group of community college researchers that contracted with the Chancellor's Office to assist the colleges with their research mandate. The researchers designed studies that assess the effects of matriculation on student retention, persistence, and success. Accordingly, the Matriculation Local Research Options Project was distributed to the colleges in November 1989. The researchers who developed the studies in the Project

also contracted to provide technical assistance in the use of the studies, and workshops were conducted in the northern and southern parts of the state. The same group developed studies to assist the colleges in validating their assessment instruments and methods. These were sent to the colleges in February 1991.

## Analysis of Matriculation Costs

In 1989-90, the colleges reported expending approximately $179 million for matriculation, including the $37 million provided by the State. This total figure was $26 million higher than the original annual cost estimate of $153 million. The original estimate was based on a more limited set of services. It did not consider the development of student educational plans, assessment of students with limited English-language proficiency, and other such factors, which have subsequently emerged either through directives from the Chancellor's Office or the realities of program operations or, more recently, the new Title 5 regulations for matriculation.

New cost estimates for matriculation have recently been developed under a study funded by the Chancellor's Office (*Assessment of the Matriculation Allocation Formula*, MPR Associates, June 1990). The new estimates incorporate a set of service standards that more accurately reflect the 1987 Board of Governors Plan and the new Title 5 regulations, as well as some of the unanticipated costs have emerged during the implementation of matriculation. In total, matriculation is now projected to cost $191.4 million annually, a figure very close to the $196.8 million that the colleges have estimated for program expenditures for the current (1990-91) program year.

The 1989-90 program year was the first in which the colleges received the full amount of State supplemental funds. Yet the amount received by the colleges was less than 25 percent in State support that was anticipated, because the range of matriculation services being implemented by the colleges (and the cost of the services) exceeded those that were assumed in the original cost model for the program. To implement matriculation, the colleges and districts have to bear a heavier share of the costs.

### *Breakdown of Expenditures*

Personnel constituted the single largest expenditure, accounting for 40 percent of total program costs. The colleges reported that 1,634 Full Time Equivalency (FTE) certificated and 2,876 FTE classified staff were involved in providing matriculation services in 1989-90. Counselors account for the majority of the certificated employees reported, while classified employees consist primarily of support staff in counseling departments and admissions and records offices.

Systemwide, a total of 205 FTE counseling positions were estimated to have been added over the past three years. In addition, an estimated 352 FTE classified staff,

172 other staff, 38 administrators, and 31 faculty were added. The faculty-FTE reported includes only those involved in the provision of noninstructional matriculation services.

*Capital Expenditures*

Computer hardware and software were the major focus of capital expenditures. The implementation of matriculation is highly dependent upon local data processing capabilities; this imperative, in conjunction with the implementation of the statewide MIS, have required major changes in data processing systems at the local level.

In conjunction with supplemental State funding for matriculation operations in 1987-88, the colleges were provided a one-time allocation of funds to offset the data processing costs associated of with matriculation. Approximately $13.4 million were distributed to the colleges, the expenditure of which is illustrated in Figure 9.1. (Data processing funds were also used for consultants and other non-capital costs, which explains the slightly higher level of data processing expenditures for 1989-90 presented in Table 3.1.) The colleges reported having spent all but a small amount of the one-time allocation by the close of the 1989-90 program year.

**Figure 8.1**

**Data Processing Expenditures for Matriculation**

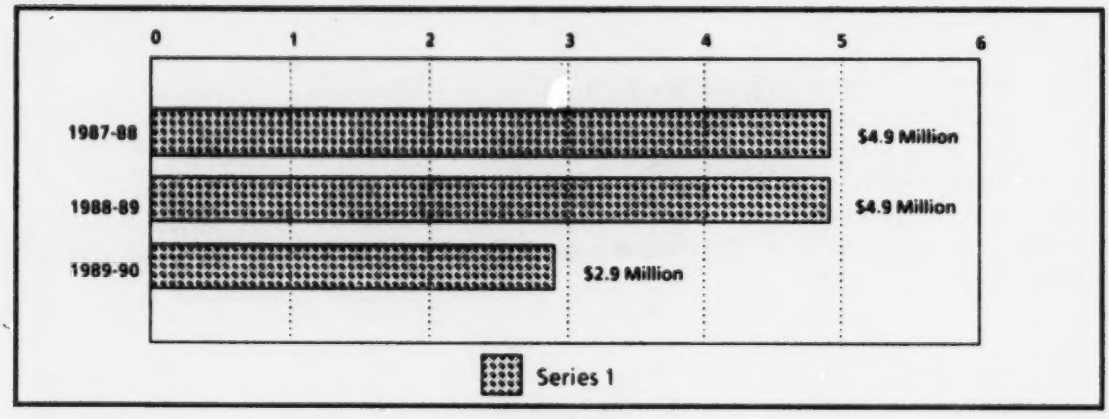



**Table 3.1**

**Carryover of One-Time Data Processing Monies**
*1989-90*

| | |
|---|---|
| Data Processing Carryover from 1988-89 | $ 3,124,819 |
| Data Processing Expenditures in 1989-90 | $ 2,919,634 |
| Data Processing Carryover to 1990-91 | $ 205,185 |

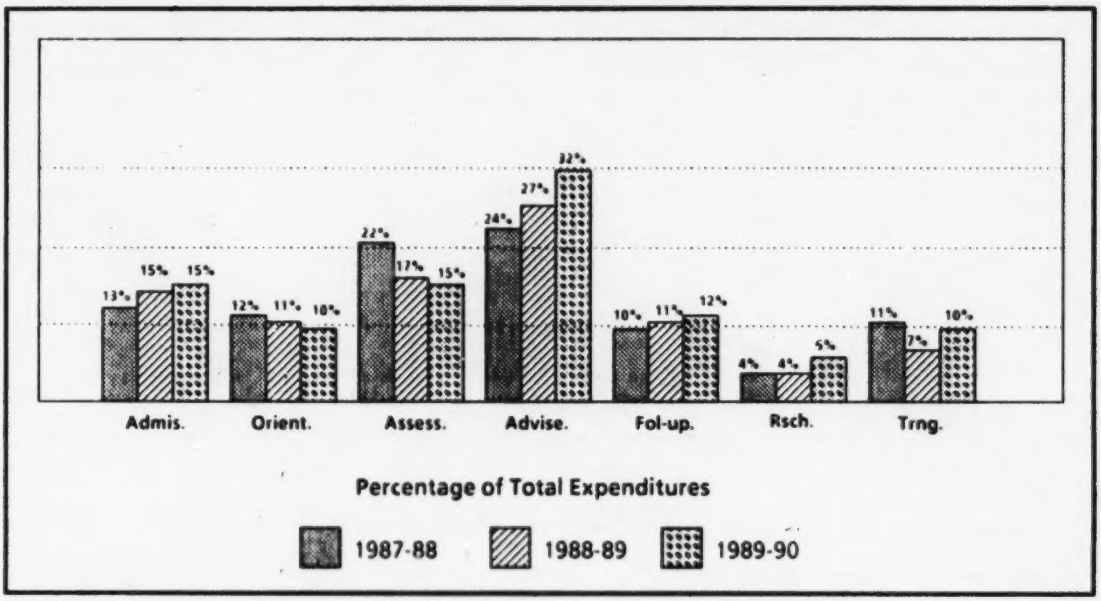
Despite these expenditures, 70 percent of matriculation coordinators reported in an ETI telephone survey that their current local data processing capabilities were not adequate to support matriculation. This situation is particularly alarming, since any evaluation of matriculation's effectiveness will depend heavily upon the automated collection of data on students from the local colleges.

*Expenditures by Program Component*

For 1989-90, the colleges were asked to estimate the percentage of State allocation expended, by program component. The data are presented in Figure 8.2, which also presents comparable information for prior years.

**Figure 8.2**

**Matriculation Expenditures by Component**




As shown, the expenditure of State supplemental funds across the different program components has remained relatively stable over the three-year period of State funding.

Examination of the expenditure of State matriculation dollars shows how the colleges have used those funds to expand matriculation services, and substantiates that colleges are using these monies to supplement and not to supplant the delivery of services. As shown, the single largest proportion of monies State funds has been concentrated upon counseling. Matriculation has greatly expanded the nature of the

services counselors provide and the number of students receiving these services. As such, it may might be expected that a major portion of state funds were would be directed to counseling. On the other hand, admissions services have changed to a lesser extent than counseling under matriculation, and the proportion of State monies funds allocated to this component is correspondingly lower.

The allocation pattern also reveals the limited amount of resources that colleges have devoted to institutional research. Implementation of this component has been delayed by the lack of resources and research expertise at many colleges.

*Carry-over of Funds*

The majority of colleges carried over a major portion of their 1987-88 State funds because of cutbacks and delays in the receipt of those funds. This gave rise to skepticism regarding future allocations, and districts/colleges scaled back their plans for implementation, particularly with respect to the hiring of additional personnel for which future funding might not be available. In 1988-89, the colleges again received a reduced amount of State funding and continued to proceed cautiously with their plans for implementation, giving rise again to a carry-over of funds.

Data on carry-over funding for the 1989-90 program year were available for 103 colleges. These colleges reported beginning the year with a carry-over of approximately $4.3 million. (See Table 3.2.) Following 1989-90 program expenditures, the carry-over figure for the 1990-91 year decreased to $3.5 million.

**Table 3.2**

**Carry-over of State Allocation**
*1989-90**

| | |
|---|---|
| 1988-89 Operating Carry-over | $ 4,372,276 |
| 1989-90 Allocation | $34,642,523 |
| **Total** | **$39,014,799** |
| 1989-90 Actual Expenditures | $35,448,187 |
| Operating Expense Carry-over to 1990-91 | $ 3,566,612 |

* Based on data for 103 colleges

Discussions with local college staff during the ETI site visits indicates that this continued carry-over is a residual of the scale-back in program implementation during the previous program years. Since matriculation was fully funded for both 1989-90 and 1990-91, skepticism regarding the future of the program has largely been eliminated, and colleges are now hiring additional staff. As a consequence, all of the colleges ETI visited in 1989-90 anticipated they would not carry over any funds in 1990-91.

Matriculation is costing more than originally estimated. The higher costs are a function of an expanded scope of services, which goes beyond that upon which the original cost model was built and beyond that specified in the legislation.

An analysis of program costs in conjunction with ETI and Chancellor's Office site visits to local colleges over the past three years indicates that the colleges are committed to the concept of matriculation and have invested significant amounts of their own resources in the effort. This commitment is demonstrated by the level of district/college expenditures, which has consistently exceeded the level of local contribution required in all three years of State funding.

## Institutional Outcomes

One of the most significant effects of matriculation on the colleges is the increased recognition of the need for basic skills instruction among a significant proportion of community college students. In their 1989-90 progress reports, the colleges indicated that, on average, student enrollment in basic skill classes had increased by 24 percent over the prior year. During 1988-89, 50 percent of the colleges had increased the number of basic skills offerings on their campuses.

As in the prior year, more than half of the colleges also reported that they were unable to meet the demand for credit basic skills courses, despite large increases in course offerings over the two-year 1988-90 period. Many colleges reported difficulties finding enough qualified instructors to teach additional reading, writing, basic mathematics and ESL classes. In addition, insufficient resources and facilities contributed to the inability of colleges to offer sufficient numbers of basic skills sections. Although colleges are focusing attention on resolving these issues and on re-examining and restructuring their curricula, the need for basic skills courses continues to strain college and district resources.

Counseling has been greatly affected by matriculation. Counselors have had to assume primary responsibility for providing orientation, advising students based upon the assessment process, developing and implementing student educational plans, and providing student follow-up activities. Colleges are utilizing instructional faculty, student advisors, and paraprofessionals, and increasing the use of electronic technology and group counseling sessions to help handle the increased responsibilities that accompany the number of students served.

Colleges are hiring additional part-time and full-time counselors, and in many cases, counselors' contracts have been extended to eleven and twelve months to accommodate the assessment, orientation, and counseling services provided during the summer months. ETI reported that in some cases, there is decreased morale among counselors resulting from increased demands upon their time and energy. However, matriculation coordinators reported that matriculation had actively involved instructional faculty in student services, and thus enhanced communication on a

campus-wide basis. ETI further reported that college personnel believe that matriculation has increased contact with students, and that students are now receiving better information about available services and programs at the community colleges and about the steps students need to take in order to reach their educational goals.

## Matriculation and Student Performance

One of the concerns about implementing matriculation in California community colleges stems from the question, "How does matriculation affect student performance in the classroom?"

To assess that affect, staff from the Chancellor's Office Research and Analysis Unit have conducted a preliminary analysis of data for a sample of over 11,000 community college students. The data have been collected as part of a larger study in which a number of student service programs are being analyzed for their impact on students' academic achievement.

This preliminary analysis reveals two major findings:

1. Matriculation services improve the academic performance of students, particularly those whose entering computational and English language skills are at the pre-collegiate level and those who come from disadvantaged socioeconomic backgrounds; and

2. Students who receive full matriculation services (four or five components) do markedly better than those who receive only partial matriculation services (two or three components).

The implications of these preliminary findings are extremely significant, since much of the current and expected growth in the community college enrollment is made up of students who are limited-English speaking and often from disadvantaged socioeconomic backgrounds. Matriculation is one of the colleges' most important tools in effectively delivering education to this quite substantial population. In view of the state's emerging demographics and the need for a skilled workforce, effective community college education is critically important to the future social and economic stability of California.

The following details the methodological approach and specific findings of this preliminary analysis, along with a discussion of the sampling procedure and several notes on further work planned for this project.

## Methodology

To date, there has been little appraisal of the "outcomes" of intervention processes like matriculation. A review of the literature and research activity in California and other states does not reveal any other studies that are similar to that conducted by the Chancellor's Office. A number of college-level studies have been undertaken in California and elsewhere, but while they examine academic outcomes, they address relatively small numbers of students and their results cannot be generalized beyond the institution. The work of the Research and Analysis Unit examines a large sample of students from a stratified sample of different colleges for which out-of-class interventions, such as those conducted under the auspices of matriculation, are analyzed for their impact on in-class academic performance. The results, therefore, can be generalized across the entire community college system.

Academic performance in this work is measured by:

> *Persistence*: the proportion of students who completed the Fall Term and enrolled in the Spring Term.
>
> *Progress*: the proportion of students who either completed (by graduating) or otherwise met their educational goals, or continued their education from the Fall Term into the Spring Term.
>
> *Retention*: the ratio of units successfully completed to units attempted.
>
> *Grades*: the cumulative grade point average (GPA) of students.

Other measures of performance will be introduced at later stages of the analysis.

The five matriculation components compared in this study are: admissions, assessment, orientation, counseling/advising, and follow-up.

The provision and receipt of these components are examined in terms of whether a student received "full" service (four or five components), "partial" service (two or three components), or admission services only.

Excluded from these analyses are students who were either exempted from matriculation or had already earned associate or higher degrees. Later analyses will examine which of the five components studied, either singly or in combination, appears to be producing the most significant results.

### *Controls*

In addition to matriculation, many other factors affect a student's classroom performance. A number of these, such as the quality of classroom instruction, are beyond

the scope of this study. This preliminary analysis, however, controls for two of the most important factors that are thought to affect a student's performance:

> **Entering skills:** normed-scores on placement tests in writing, reading and, mathematics are weighted to measure whether a student's skills are below the college freshman grade level (<13), at freshman level (=13), or above freshman level (>13). It was not within the scope of this study to determine the extent to which test scores were used exclusively for placement advice or as a portion of multi-measure assessment.
>
> **Socioeconomic (SES) background:** measured here by the average per capita income in the area (ZIP Code) of which the student was a resident.

The fundamental research question here is:

> Do students with similar entering skills and SES backgrounds perform better when they have received matriculation services than when they have not?

To answer this question, staff examined the differences in measures of central tendency for performance by three groups of students who received (1) full matriculation services, (2) partial matriculation services, and (3) admissions only. The statistical significance of these differences is determined by use of "Scheffe's t-test" at the 5%-level. This means that there is less than one chance in twenty that results designated as "significant" are due to chance or random consequences. In later work, other types of analyses will be used, including linear regression models, to isolate the independent significance of factors that may influence one another.

*Sampling and Data*

The sample of students for this analysis was drawn from twelve community colleges in such a way that findings for matriculation could be generalized to all community colleges across the state. To insure this result, the following steps were taken:

First, community colleges were arranged in strata by enrollment, size, location, and age; then, by student ethnicity, gender, and academic load. A sample of twelve colleges was drawn from the strata to represent these characteristics across the state. A comparison of the sample colleges with statewide values for these characteristics validated this twelve-college sample.

Community colleges in this sample include:

| | | |
|---|---|---|
| Cerro Coso | Imperial Valley | Merritt |
| Los Angeles Trade-Tech | Mt. San Antonio | Yuba |
| Rancho Santiago | Sacramento City | College of the Siskiyous |
| Santa Barbara City | West Hills | DeAnza |

Next, the numbers of students served by the student services programs at each college were determined to identify sample sizes that would provide enough cases to make generalizations about these programs possible. Once the program samples, including those for matriculation, were determined for each college, the appropriate numbers of students were drawn on a random basis.

Finally, for each student sampled, the colleges reported existing data on 62 separate variables that describe students': demographics; entry background, including placement test scores; college background; academic performance; and matriculation services received.

In all, data have been collected for 11,354 students from the 12 colleges. The sample has been validated for the analysis of matriculation; i.e., the sample is representative of students throughout the system who receive one or more of the five components of matriculation.

## Findings

*Persistence*

> Students who received more matriculation services displayed much higher persistence rates (Fall 1989 to Spring 1990) than did students who received fewer matriculation services.

This finding is illustrated in Table 4.1, where 87 percent of the students receiving full matriculation services persisted from Fall 1989 into Spring 1990, in contrast to 80 percent of those students receiving partial services and 70 percent of those who received admissions services only. (Note: column 3 in Table 10.1 and all other tables represents all students who received more than just admissions services; i.e., the combination of columns 1 and 2; column 4 depicts results for students who received admission services only.)

The impact of matriculation on persistence is most significant for students whose entering skills were below the freshman level (<13). Just 58 percent of the students who received admissions services only persisted, while those who received additional matriculation services persisted at substantially (and statistically significant) higher rates.

**Table 4.1**

**Persistence Rates by Skill Levels for Students Receiving Different Combinations of Matriculation Components**

| Skills | Matriculation Components | | | | Number |
|---|---|---|---|---|---|
| | 4 or 5 | 2 or 3 | >1 | Admissions Only | |
| >13 | 0.96* | - | 0.96* | 0.83 | 167 |
| 13 | 0.88 | 0.88 | 0.88 | 0.81 | 1,199 |
| <13 | 0.87* | 0.77* | 0.85* | 0.58 | 1,915 |
| **Total** | **0.87*** | **0.80*** | **0.86*** | **0.70** | - |
| **Total Number** | **2,011** | **305** | **2,316** | **965** | **3,281** |

* Significantly different (at 0.05 level) than the value for those receiving admissions only.

Provision of matriculation services appears to have affected students at different SES levels in roughly the same fashion (Table 4.2). That is, the persistence rates for students from high SES backgrounds are no different (statistically) than the

**Table 4.2**

**Persistence Rates by Student Entering Skills for Students Receiving Different Combinations of Matriculation Components**

| Student Entering Skills | Matriculation | | | | Number |
|---|---|---|---|---|---|
| | 4 or 5 | 2 or 3 | >1 | Admissions Only | |
| High | 0.83* | 0.82* | 0.83* | 0.73* | 462 |
| Medium | 0.90* | 0.86* | 0.89* | 0.67* | 1,780 |
| Low | 0.84* | 0.62* | 0.82* | 0.74* | 761 |
| **Total** | **0.87*** | **0.81*** | **0.86*** | **0.70** | - |
| **Total Number** | **1,912** | **295** | **2,207** | **796** | **3,003** |

* Significantly different (at 0.05 level) than the value for those receiving admissions only.

persistence rates of students from middle or low SES backgrounds. For all SES levels, however, receiving more matriculation services improves student persistence. One exception to this pattern, however, is the low, 62 percent persistence rate reported for students from low SES backgrounds who received just two or three matriculation components.

*Progress*

While most students plan to complete their programs at the end of an academic year, a number of students in this study completed their goals at mid-year, the end of the Fall Term and, therefore, did not persist into the Spring, 1990, term despite the fact that they were progressing successfully. To correct for this, the term "progress" was defined as including students who either have completed their educational programs or are continuing to successfully pursue their goals, in contrast to those who left college at the end of the Fall Term for other or unknown reasons.

> Controlling for skill levels and SES, matriculation services produce improved rates of student progress.

Overall, 88 percent of those students receiving full matriculation services progressed between terms, while 82 percent and 76 percent of those receiving partial and admission-only services, respectively, progressed between terms (Tables 4.3 and 4.4). Thus, it appears that the receipt of full matriculation services has a substantially larger impact on student progress than does the receipt of partial services or admissions-only.

As with persistence, the greatest improvement in progress due to matriculation is observed among students in the <13 skill levels. Remarkably, their progress rates (88 percent) were similar (not statistically different from) to those students at the grade 13 skill level. Also, students receiving just 2 or 3 matriculation components exhibited rather low progress rates.

**Table 4.3**

**Progress Rates by Skill Levels for Students Receiving Different Combinations of Matriculation Components**

| Skills | Matriculation Components | | | | Number |
|---|---|---|---|---|---|
| | 4 or 5 | 2 or 3 | >1 | Admissions Only | |
| >13 | 0.96* | – | 0.96* | 0.85 | 167 |
| 13 | 0.89 | 0.90 | 0.90 | 0.85 | 1,199 |
| <13 | 0.88* | 0.78* | 0.86* | 0.66 | 1,915 |
| **Total** | **0.88*** | **0.82** | **0.87*** | **0.76** | – |
| **Total Number** | **2,011** | **305** | **2,316** | **965** | **3,281** |

* Significantly different (at 0.05 level) than the value for those receiving admissions only.

**Table 4.4**

**Progress Rates by Student Entering Skills for Students Receiving Different Combinations of Matriculation Components**

| Student Entering Skills | Matriculation | | | | Number |
|---|---|---|---|---|---|
| | 4 or 5 | 2 or 3 | >1 | Admissions Only | |
| High | 0.86 | 0.82 | 0.85 | 0.81 | 462 |
| Medium | 0.91* | 0.88* | 0.90* | 0.74 | 1,780 |
| Low | 0.86* | 0.64* | 0.84 | 0.79 | 761 |
| **Total** | **0.88*** | **0.83*** | **0.87*** | **0.76** | – |
| **Total Number** | **1,912** | **295** | **2,207** | **796** | **3,003** |

* Significantly different (at 0.05 level) than the value for those receiving admissions only.

*Retention*

Matriculation appears to improve the retention of students whose skills are below freshman level (<13) and who are from low socioeconomic (SES) backgrounds, but only in the case where the students receive full services.

This finding is demonstrated by the comparisons in Table 4.5, which shows that students with a <13 skills level who received full matriculation services completed 74 percent of the units they attempted in the Fall Term. Those who received partial matriculation services completed 64 percent of their units. By contrast, those who received admissions-only completed 70 percent of their units. (See also, Figure 9.1.)

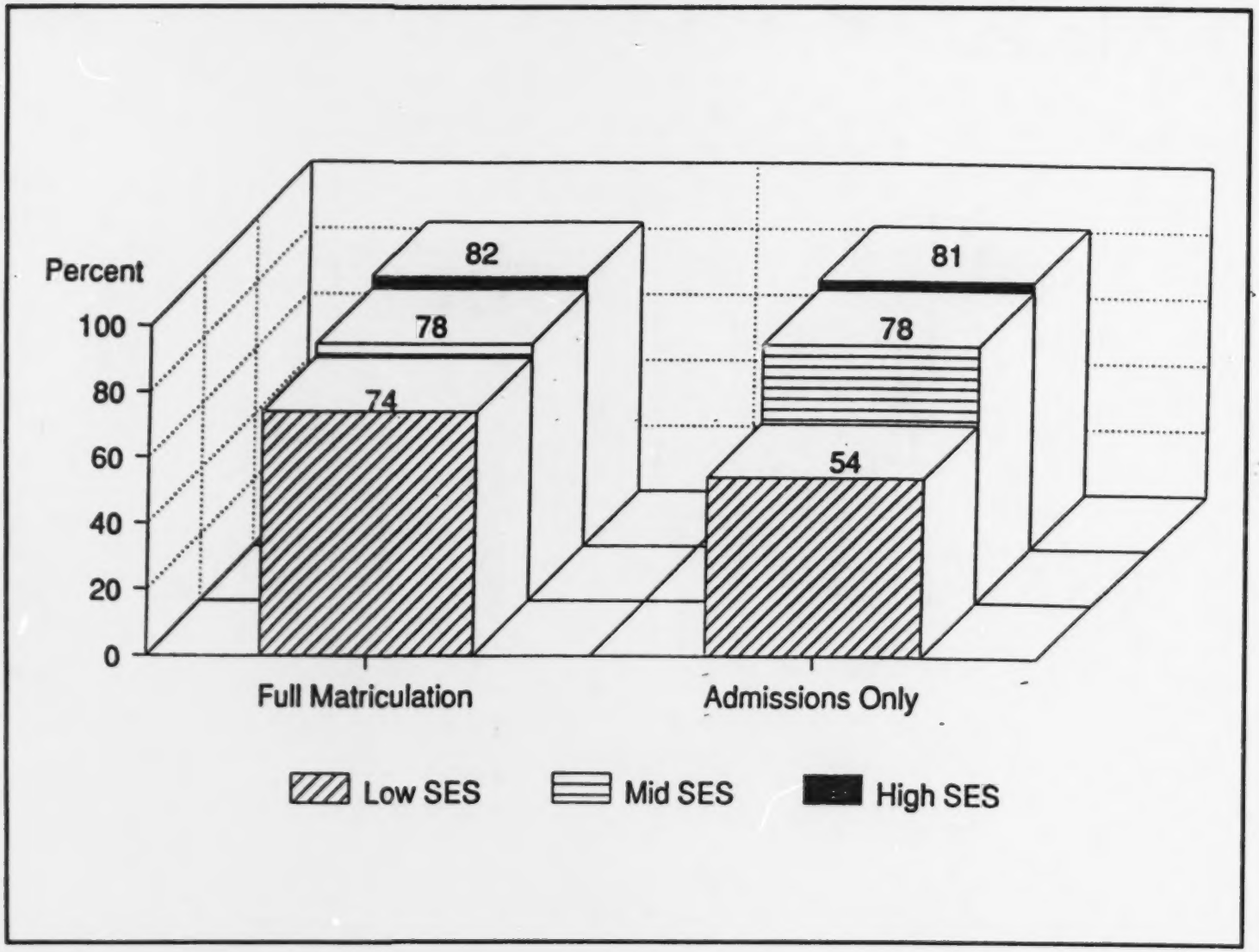
**Table 4.5**

**Retention Rates by Skill Levels for Students Receiving Different Combinations of Matriculation Components**

| Skills | Matriculation Components | | | | Number |
|---|---|---|---|---|---|
| | 4 or 5 | 2 or 3 | >1 | Admissions Only | |
| >13 | 0.91 | – | 0.91 | 0.92 | 167 |
| 13 | 0.82 | 0.81 | 0.82 | 0.84 | 1,271 |
| <13 | 0.74 | 0.64 | 0.72 | 0.70 | 2,196 |
| **Total** | **0.77** | **0.68*** | **0.76** | **0.78** | – |
| **Total Number** | **2,226** | **402** | **2,628** | **1,006** | **3,634** |

* Significantly different (at 0.05 level) than the value for those receiving admissions only.

**Figure 9.1**
**Retention Rates by Socio-Economic Status for Students Receiving Matriculation**



Another pattern of retention is observed for students from low SES categories (Table 4.6). For low SES students, retention increases as matriculation services are added.

**Table 4.6**

**Retention Rates by Student Entering Skills for Students Receiving Different Combinations of Matriculation Components**

| Student Entering Skills | Matriculation | | | | Number |
|---|---|---|---|---|---|
| | 4 or 5 | 2 or 3 | >1 | Admissions Only | |
| High | 0.82 | 0.65* | 0.78 | 0.81 | 479 |
| Medium | 0.78 | 0.68* | 0.76 | 0.78 | 2,031 |
| Low | 0.74* | 0.69 | 0.74* | 0.54 | 833 |
| **Total** | **0.77** | **0.68*** | **0.76** | **0.78** | – |
| **Total Number** | **2,121** | **389** | **2,510** | **833** | **3,343** |

* Significantly different (at 0.05 level) than the value for those receiving admissions only.

*Grades*

> Of those students below freshman skill levels and from disadvantaged to mid-level SES groups, those receiving two or more matriculation services had, by Fall 1989, recorded significantly higher grade point averages than those who received admission services only.

Similar to the findings of other outcome measures, the difference in GPA attributable to matriculation was greatest for those students with the least skills and from the lower SES backgrounds. For instance, those with <13 skill levels who received two or more matriculation components earned a cumulative college GPA of 2.07, compared to similarly skilled students who, while receiving only the admissions service, recorded a cumulative GPA of 1.33, 0.74 of a grade point less (Table 4.7 and Figure 9.2). By contrast, the GPA differences for students at and above grade 13 were 0.12 and 0.03, respectively.

**Table 4.7**

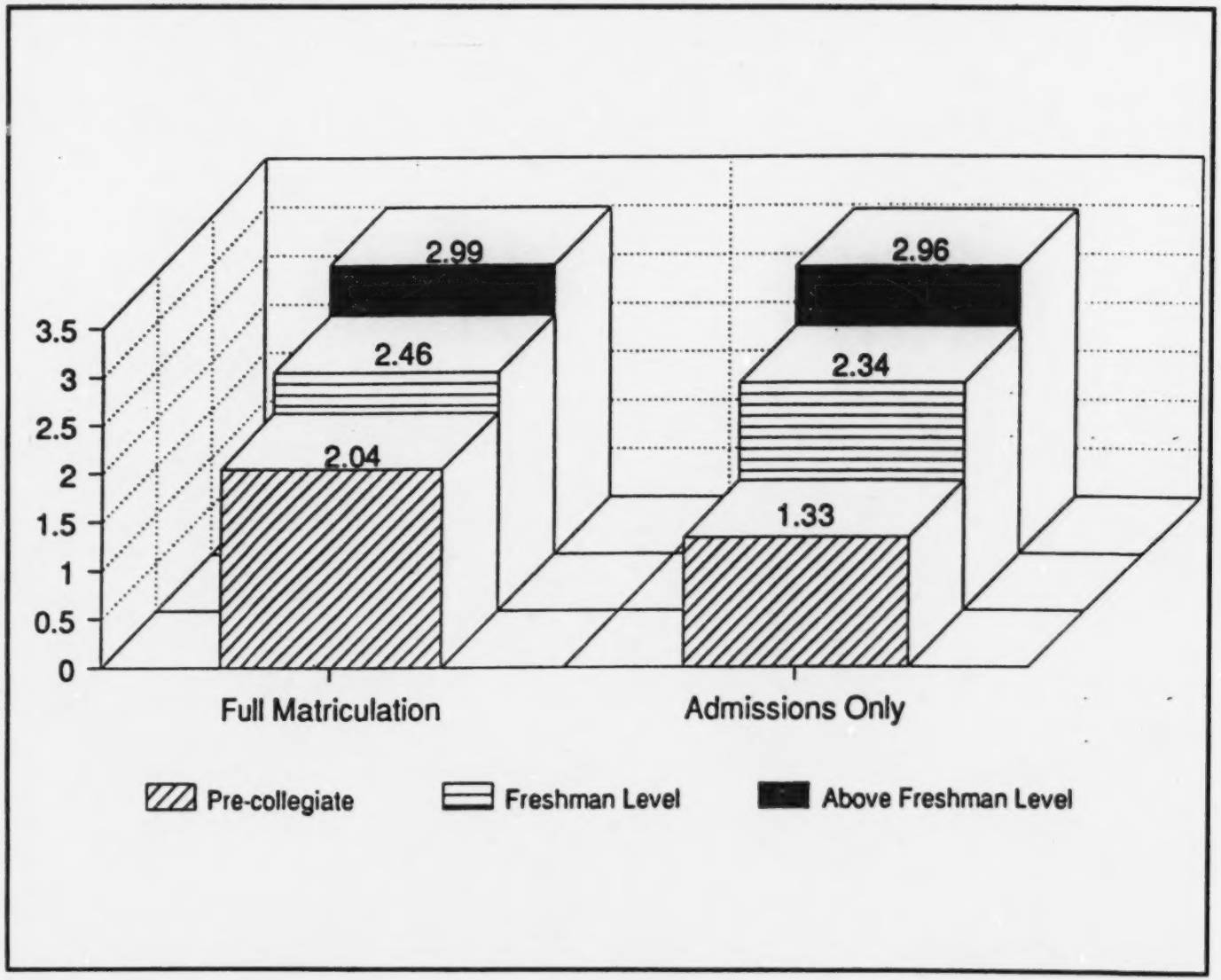
**Cumulative Grade Point Averages by Skill Levels for Students Receiving Different Combinations of Matriculation Components**

| Skills | Matriculation Components | | | | Number |
|---|---|---|---|---|---|
| | 4 or 5 | 2 or 3 | >1 | Admissions Only | |
| >13 | 2.99 | – | 2.99 | 2.96 | 167 |
| 13 | 2.46 | 2.50 | 2.46 | 2.34 | 1,271 |
| <13 | 2.04* | 2.21* | 2.07* | 1.33 | 2,194 |
| **Total** | **2.21*** | **2.28*** | **2.22*** | **1.90** | – |
| **Total Number** | **2,224** | **402** | **2,626** | **1,006** | **3,632** |

* Significantly different (at 0.05 level) than the value for those receiving admissions only.

Figure 9.2

Cumulative GPA by Skills Levels for Students Receiving Matriculation



Notably, the receipt of multiple matriculation services appears to have neutralized the impact of students' SES backgrounds with respect to GPAs (Table 4.8). There is little difference in GPAs for students from different SES backgrounds who received more than two matriculation components. By contrast, students receiving admissions-only services record significantly higher GPAs if they are from higher SES backgrounds.

**Table 4.8**

**Cumulative Grade Point Averages by Student Entering Skills for Students Receiving Different Combinations of Matriculation Components**

| Student Entering Skills | Matriculation | | | | Number |
|---|---|---|---|---|---|
| | 4 or 5 | 2 or 3 | >1 | Admissions Only | |
| High | 2.19 | 2.27 | 2.21 | 2.05 | 479 |
| Medium | 2.29* | 2.29* | 2.29* | 1.71 | 2,030 |
| Low | 2.08* | 2.21* | 2.09* | 1.39 | 832 |
| **Total** | **2.21*** | **2.27*** | **2.22*** | **1.83** | – |
| **Total Number** | **2,119** | **389** | **2,508** | **833** | **3,341** |

* Significantly different (at 0.05 level) than the value for those receiving admissions only.

In conclusion, the preliminary analysis by the Research and Analysis Unit indicates that there is a strong, positive, and significant relationship between matriculation services and student success.

## Barriers to the Implementation of Matriculation

In 1989-90, the colleges reported significantly fewer barriers to the implementation of matriculation than in the past. Increased State and local funding translated into more staff positions and enhanced data processing systems, and the Chancellor's Office was generally perceived to be providing a higher level of assistance to the colleges. There was also a significant decrease in the reported skepticism regarding the future funding of matriculation by the State.

Even so, the increase in the level and scope of matriculation services and the attendant increase in college-wide expectations regarding matriculation, appeared to consistently out pace the colleges' ability to add sufficient staff and computer support. In their progress reports, the colleges identified three across-the-board barriers to implementing matriculation: limited staffing, limited data processing support, and limited funding. Limited facilities and delays in the statewide MIS were also cited, but these affected particular components or services.

Staffing concerns were most pressing in admissions and counseling/advising, and in both areas were closely related concerns about computer support. For example, admissions staffs took on additional matriculation services such as determining a student's exemption status regarding different matriculation components and referring students to other support services. Many colleges also reported that they did not have the admissions staff or the hardware/software to ensure entry of the data collected through the application into a computerized data base, and that the lack of a fully operational state MIS hindered their ability to update and introduce new admissions application forms.

Because orientation, counseling/advising, and follow-up in 1989-90 were all heavily dependent on counselors, many colleges cited staffing limitations in these components. In effect, the counselors' matriculation responsibilities expanded faster than the colleges' counseling staffs. In the orientation component alone, providing services prior to, during, and following class registration is a labor-intensive process that has strained the resources of counseling departments at many colleges. This has been compounded by an increased number of students who see counselors for initial assessment interpretation and placement advice and for later development of their educational plans. Similarly, follow-up as it is structured at most campuses involves referrals to counselors. This situation undoubtedly accounts for the significant increase in the number of colleges that now involve instructional faculty and others in the orientation, advising, and follow-up components.

But additional counseling or advising staff alone would not resolve the computer-related problems cited in over two-thirds of the 1989-90 progress reports. At many campuses, there was frustration over the lack of data processing support for fully computerized access to student records and educational plans, the lack of on-line student information, and the lack of computerized SEPs. It was widely noted that efficient data collection and retrieval systems are inextricably linked to effective delivery of counseling.

Similarly, staffing and data processing concerns came together as a reported barrier to the research and evaluation effort at most colleges. Several colleges stepped up their efforts to implement a research effort by hiring data processing and research staff during 1989-90. For many other colleges, however, research was a relatively new initiative and only very recently had research staff been designated and assigned matriculation-related duties. There was also an increase, over 1988-89, in the number of colleges that identified limited data processing capabilities as a barrier. At the ETI site-visit colleges, for example, there were significant difficulties related to the purchase of new hardware/software and the use of mainframe computers (e.g., translation and down-loading student data previously stored on the mainframe, staff training in new computer systems, etc.).

Conversely, almost one-third fewer colleges identified lack of assistance from the Chancellor's Office as a factor that limited the implementation of research. Institutional researchers and data processing managers at the ETI site-visit colleges praised

the research models provided in the fall of 1990 and the accompanying technical assistance workshops as being extremely helpful.

Limited facilities were cited as a serious impediment in the orientation component and, to a somewhat lesser extent, in assessment. Space for conducting large-group sessions for either purpose becomes extremely scarce after classes begin each term, and very few campuses have enough space for dedicated orientation or assessment services.

Interestingly, some colleges that reported a lack of funding as a barrier to fuller implementation of one or more components also reported carrying over substantial amounts of money from the 1989-90 State allocation into 1990-91. This raises questions about whether the problem is a lack of funds or, instead, the lack of mechanisms at the local level to expend the funds effectively. The Chancellor's Office will need to work more closely with these districts and colleges in 1990-91 to ensure that *all* appropriate resources are applied to the services that the districts themselves have identified as necessary for the success of students.

## 1990-91 Matriculation Activities

The community college system is progressing well towards full implementation of matriculation, given the comprehensiveness of the process, the limited funding prior to 1989-90, and the partially operating statewide information system. During 1990-91, colleges and districts will continue towards full implementation of all matriculation components, conduct systemwide research on student and institutional outcomes, and develop new matriculation plans.

To assist the colleges in fully implementing matriculation by June 30, 1991, the Chancellor's Office Matriculation Unit is engaged in several major activities. The Matriculation Advisory Committee (MAC), consisting of representatives from each of the consultation groups, regional matriculation coordinators, and Chancellor's Office staff, continues to provide guidance and assistance to the Matriculation Unit on issues related to implementing matriculation.

Title 5 matriculation regulations were adopted by the Board of Governors in May 1990, and became effective July 6, 1990. The Chancellor's Office staff, with members of the field, are drafting implementing guidelines. The completion of these guidelines is expected during 1991-92. A new program-plan format reflecting the regulations and progress-expenditure requirements was completed and disseminated to the field; all colleges submitted their new plans to the Chancellor's Office by January 1991.

The Funding Formula Task Force, with the assistance of MPR Associates, completed the review of the cost standards of matriculation and submitted a report and recommendations concerning the funding formula. These recommendations went through

consultation during the summer and fall of 1990 and the Board is expected to act upon them at its March 1991 meeting.

A *Matriculation Resource Manual* containing Title 5 regulations, Assembly Bill 3, college plan, local research studies, progress and expenditure reports, assessment standards, technical assessment document, master calendar, questions and answers, etc., was distributed to the college and district matriculation coordinators in August 1990.

The Matriculation Assessment Group, with assistance from the Center for Educational Testing and Evaluation, completed the draft of *Standards, Policies and Procedures for the Evaluation of Assessment Instruments Used in the California Community Colleges.* The seven-step review process for evaluating placement tests went through consultation during late 1990 and early 1991. The Board of Governors will consider this process during its March 1991 meeting. The review procedure is being pilot tested during 1990-91, with the first list of approved tests to be issued by the Chancellor in June 1991. The draft of *Standards, Policies and Procedures* and the *Matriculation Assessment Technical Manual* were distributed to the colleges in August 1990. Assessment workshops were held throughout the state in October 1990 to address issues related to the validation of placement tests and the use of these tests in the community college assessment process.

Two major projects were undertaken during 1990-91. The Chancellor's Office Research Unit conducted a student services research project utilizing data from twelve colleges representative of California's demographics. This project examined student outcomes related to matriculation services, EOPS, DSPS, GAIN, CARE, and financial aid recipients. In addition, a community college research group, contracted by the Chancellor's Office, completed and disseminated eleven research designs to assist colleges with the validation of assessment instruments. The members of this research group also serve as technical assistants to those colleges using the research designs.

Twenty-one site evaluations will be conducted by Chancellor's Office and college matriculation staff during 1990-91 to provide information and support to colleges regarding their progress toward full implementation of matriculation and to obtain aggregated information related to the statewide evaluation of matriculation.

A matriculation/basic skills conference, "Planning for Student Success," will be held May 2-3, 1991, in Costa Mesa. Workshops and keynote speakers will focus on instructional methodologies, implementation issues, technical assistance, and strategies for linking student services and instruction.

The Matriculation Unit will continue to offer technical assistance to the colleges and districts via phone calls, written responses, publication of *Questions & Answers*, regional workshops and meetings. The staff will also continue to coordinate with the Research and Analysis Unit for ongoing evaluation of student outcomes related to matriculation support services for California's community college students.

# APPENDIX A

## CHAPTER 1467

**(Assembly Bill No. 3)**

**An act to add Article 1.5 (commencing with Section 78210) to Chapter 2 of Part 48 of the Education Code, relating to community colleges, and making an appropriation therefor.**

[Approved by Governor September 30, 1986. Filed with Secretary of State September 30, 1986.]

I am reducing the appropriation contained in Section 2(a) of Assembly Bill No. 3 from $55,196,000 to $6,151,000.

The reductions are reflected as follows:

Section 2(1) I eliminate this appropriation

Section 2(2) $34,296,000 to $6,151,000.

The reduction has two effects:

1. It will eliminate the one-half-year funding provided in the bill for matriculation.

2. It will provide, after taking into consideration the fiscal impact of AB 216 which I have previously signed, one-half of full funding for community colleges with declining average daily attendance.

When the 1987–88 legislative session convenes, it is my intention to seek full funding for the matriculation (which was funded for one-half-year only) and the remaining one-half of the declining average daily attendance provisions. I support full funding of the matriculation program which was added to my Budget and the declining average daily attendance provisions which I included in my Budget. However, because of the Legislature's failure to complete their own budget process, I am obligated to make these reductions in order to protect California's fiscal integrity. When the Legislature sent me their budget in June, they relied upon an additional $302 million in income. I set aside funding for these programs, awaiting the necessary legislation implementing the Legislature's budget action. Unfortunately, the Legislature has failed to send me a bill fully funding these programs, thus requiring this action.

With this reduction, I approve Assembly Bill No. 3.

GEORGE DEUKMEJIAN, Governor

### LEGISLATIVE COUNSEL'S DIGEST

AB 3, Campbell. Community colleges matriculation.

Existing law contains no provisions relating to student matriculation programs at community colleges.

This bill would require the Chancellor of the California Community Colleges to fully implement specified matriculation services in the community colleges, and would define the term "matriculation" for these purposes. This bill would require the chancellor to report to the Legislature by March 15, 1989, regarding the effectiveness of these programs and to make recommendations as to the continuation of matriculation programs at community colleges. This bill would require the chancellor to report to the Legislature by March 15 of each year thereafter regarding the implementation of these programs.

This bill would require, that, no later than January 1, 1986, the chancellor appoint an advisory committee to assist in the development of the evaluation.

The bill would also require the chancellor to submit a report to the Legislature on or before April 1, 1988, evaluating the comparative utility of the matriculation process services to students with differing educational objectives.

This bill would make these provisions operative in the 1986–87 fiscal year and each fiscal year thereafter only if funds are specifically appropriated for this purpose.

This bill would appropriate $21,000,000 to the Board of Governors of the California Community Colleges for the matriculation services implemented pursuant



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to the bill, and would provide a legislative declaration that the funds appropriated by this bill for matriculation purposes are for half year costs in the 1986–87 fiscal year. This bill also would appropriate $34,196,000 to augment a specified item in the 1986 Budget Act for community colleges with declining average daily attendance.

Appropriation: yes.

*The people of the State of California do enact as follows:*

SECTION 1. Article 1.5 (commencing with Section 78210) is added to Chapter 2 of Part 48 of the Education Code, to read:

ARTICLE 1.5

Student Matriculation

§ 78210. This article shall be known and may be cited as the Seymour-Campbell Matriculation Act of 1986.

§ 78211. It is the intent of the Legislature to do all of the following:

(a) Ensure equal education opportunity for all Californians.

(b) Ensure that students receive the educational services necessary to optimize their opportunities for success.

(c) Provide students with the information to establish realistic educational goals, and ensure that the matriculation process does not exclude students from receiving appropriate educational services at community colleges.

§ 78211.5. (a) The Chancellor of the California Community Colleges shall initially provide for full implementation of the matriculation services specified in Section 78212 in as many community colleges as the funds appropriated for this purpose allow.

(b) Because of the need to develop and evaluate data on a standard statewide basis concerning the implementation and effectiveness of the matriculation services described in this article, any college or district receiving funding under this article shall agree to carry out its provisions as specified, but shall be bound to that agreement only for the period during which funding is received pursuant to this article. The obligations of the college or district under the agreement shall include, but not be limited to, the expenditure of funds received pursuant to this article for only those matriculation services approved by the chancellor and the contribution toward the purposes of this article of such matching funds as the chancellor may require pursuant to Section 78216.

§ 78212. (a) For purposes of this article, "matriculation" means a process that brings a college and a student who enrolls for credit into an agreement for the purpose of realizing the student's educational objectives. The agreement involves the responsibilities of both parties to attain those objectives through the college's established programs, policies, and requirements.

The student's responsibilities under the agreement include the expression of at least a broad educational intent upon enrollment, the declaration of a specific educational objective within a reasonable period after enrollment, diligence in class attendance and completion of assigned coursework, and the completion of courses and maintenance of progress toward an educational goal according to standards established by the college, the district, and the state.

(b) Matriculation services to be made available by the colleges shall include, but are not limited to, all of the following:

(1) Processing of the application for admission.

(2) Orientation and preorientation services designed to provide to students, on a

timely basis, information concerning campus procedures, academic expectations, financial assistance, and any other matters the college or district finds appropriate.

(3) Assessment and counseling upon enrollment, which shall include, but not be limited to, all of the following:

(A) Administration of assessment instruments to determine student competency in computational and language skills.

(B) Assistance to students in the identification of aptitudes, interests and educational objectives, including, but not limited to, associate of arts degrees, transfer for baccalaureate degrees, and vocational certificates and licenses.

(C) Evaluation of student study and learning skills.

(D) Referral to specialized support services as needed, including, but not limited to, federal, state, and local financial assistance; health services; campus employment placement services; extended opportunity programs and services provided pursuant to Article 8 (commencing with Section 69640) of Chapter 2 of Part 42; campus child care services provided pursuant to Article 4 (commencing with Section 8225) of Chapter 2 of Part 6; programs that teach English as a second language; and disabled student services provided pursuant to Chapter 14 (commencing with Section 67300) of Part 40.

(E) Advisement concerning course selection.

(4) Postenrollment evaluation of each student's progress, and required advisement or counseling for students who are enrolled in remedial courses, who have not declared an educational objective as required, or who are on academic probation, as defined by standards adopted by the Board of Governors of the California Community Colleges and community college districts.

§ 78213. (a) No district or college may use any assessment instrument for the purposes of this article without the authorization of the chancellor. The chancellor may adopt a list of authorized assessment instruments pursuant to the policies and procedures developed pursuant to this section and the intent of this article. The chancellor may waive this requirement as to any assessment instrument pending evaluation.

(b) The chancellor shall review all assessment instruments to ensure that they meet all of the following requirements:

(1) Assessment instruments shall be sensitive to cultural and language differences between students.

(2) Assessment instruments shall be used as an advisory tool to assist students in the selection of an educational program.

(3) Assessment instruments shall not be used to exclude students from admission to community colleges.

(c) The chancellor shall establish an advisory committee to review and make recommendations concerning all assessment instruments used by districts and colleges pursuant to this article.

§ 78214. (a) All participating districts shall, with the assistance of the chancellor, establish and maintain institutional research to evaluate the effectiveness of the matriculation services described by this article and of programs and services designed to remedy students' skills deficiencies.

(b) The data base for this research shall include, but not be limited to:

(1) Prior educational experience, including transcripts when appropriate, as determined by the chancellor.

(2) Educational objectives.

(3) Criteria for exemption from assessment or required counseling or advisement, if applicable.

(4) Need for financial assistance.

(5) Ethnicity, sex, and age.

(6) Academic performance.

(7) Any additional information that the chancellor finds appropriate.

(c) The evaluation provided for by this section shall include an assessment of the effectiveness of the programs and services in attaining at least the following objectives:

(1) Helping students to define their educational goals.

(2) Assisting institutions in the assessment of students' educational needs.

(3) Matching institutional resources with students' educational needs.

(4) Providing students with specialized support services as referred to in subdivision (b) of Section 78212.

§ 78215. The Board of Governors of the California Community Colleges shall establish criteria for exempting students from participation in orientation, assessment testing, or required counseling or advisement under this article.

§ 78216. (a) The Legislature recognizes that community college districts are currently funding various components of student matriculation through existing counseling, assessment, and other student services, but that adequate student matriculation cannot be realized without supplemental funding support.

(b) The chancellor shall develop a formula for funding student mat.'culation services at community colleges. The formula shall include the requirement that the districts or colleges contribute matching funds in an amount to be established by the chancellor in each case, and shall reflect, but not be limited to, all of the following considerations:

(1) The number of students to receive matriculation services at each college.

(2) The levels of support for matriculation services provided at each college prior to July 1, 1985, and the need for funding assistance in the implementation of the program set forth in this article.

(3) The relative needs for matriculation services, based on special student populations such as low-income students, students with language differences, students with physical and learning disabilities, and students in need of remedial instruction.

(4) The requirement that funds for matriculation services be expended only for services approved by the chancellor.

(5) The requirement that any district or college receiving funding pursuant to this section agree to implement this article during the period in which it receives that funding.

(6) The need for computer hardware and software to provide approved matriculation services, and for institutional research personnel for ongoing evaluation.

(c) The chancellor shall require participating colleges to develop a plan for student matriculation that reflects all of the following:

(1) A method for providing the services specified in Section 78212.

(2) The college budget for the matriculation services pursuant to Sections 78212 and 78214.

(3) The development and training of staff and faculty to implement the matriculation services.

(4) In multicampus districts, the coordination of the college matriculation plan with other college plans.

(5) Computerized information services and institutional research and evaluation necessary for implementation of this article.

(d) The chancellor may allocate up to 5 percent of the total funds appropriated for student matriculation for state administrative operations to carry out the intent of this article, subject to the review of the annual budget process.

§ 78217. (a) By no later than January 30, 1987 and prior to the allocation of any

funding for purposes of this article to local districts, the chancellor shall provide the Department of Finance, Legislative Analyst, California Postsecondary Education Commission, and the education policy committees and the fiscal committees of the Legislature with a comprehensive management plan for implementation of matriculation programs pursuant to the provisions of this article.

(b) On or before March 15, 1989, the chancellor shall submit a report to the Legislature evaluating the effectiveness of those community college matriculation programs receiving funding under this article for the 1986–87 academic year. The report shall cover operation of the programs during the 1986–87 and 1987–88 fiscal years, and shall include the chancellor's recommendations regarding the improvement of student matriculation, the continued operation of student matriculation services, and the funding of those services. The chancellor shall include in the report information on the success rate of students who enroll in courses contrary to the recommendations and advice of college advisement staff.

(c) On or before March 15 of each year thereafter, the chancellor shall provide a progress report to the Legislature on the implementation of this article. The chancellor may require participating districts or colleges to provide data for the completion of these reports.

(d) No later than January 1, 1986, the chancellor shall appoint an advisory committee to assist in the development of the evaluation required by this section; however, the Legislature recognizes that to promote the effective implementation of this program, the chancellor may wish to appoint the advisory committee prior to that date.

(e) On or before April 1, 1988, the chancellor shall submit a report to the Legislature evaluating the comparative utility of matriculation services to students with differing educational objectives.

§ 78218. In the 1986–87 fiscal year and each fiscal year thereafter, this article shall be operative only if funds are specifically appropriated for the purposes of this article.

SEC. 2. (a) The sum of fifty-five million one hundred ninety-six thousand dollars ($55,196,000) is hereby appropriated from the General Fund to the Board of Governors of the California Community Colleges for local assistance as follows:

(1) Twenty-one million dollars ($21,000,000) for matriculation purposes pursuant to Article 1.5 (commencing with Section 78210) of Chapter 2 of Part 48 of the Education Code.

(2) Thirty-four million one hundred ninety-six thousand dollars ($34,196,000) for the purposes of augmenting category A of Item 6870-101-001 of Section 2.00 of the 1986 Budget Act (Chapter 186 of the Statutes of 1986) for community colleges with declining average daily attendance.

(b) The Legislature declares that funds appropriated by this act for matriculation purposes are for half year costs in the 1986–87 fiscal year.

# APPENDIX B

## Matriculation Regulations

1. Section 51024 is added to Chapter 1 of Division 2 of Title 5 to read:

**51024. Matriculation Services.**

When matriculation services have been fully funded, as certified by the Chancellor in accord with policies adopted by the Board of Governors, the governing board of each community college district shall:

(a) adopt and submit to the Chancellor a matriculation plan as required under Section 55510;

(b) evaluate its matriculation program and participate in statewide evaluation activities as required under Section 55512(c);

(c) provide matriculation services to its students in accordance with Sections 55520 and 55521;

(d) establish procedures for waivers and appeals in connection with its matriculation program in a manner consistent with Section 55534; and

(e) substantially comply with all other provisions of Chapter 6 (commencing with Section 55500) of Division 6 of this part.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Sections 78210-78218, Education Code.

### Chapter 6. Matriculation Programs
### Article 1. Scope and Definitions

**55500. Scope and Implementation.**

(a) This chapter implements and should be read in conjunction with the provisions of the Seymour-Campbell Matriculation Act of 1986, c. 1467, Stats. 1986, codified as Education Code Section 78210 et seq. The purpose of this chapter is to further equality of educational opportunity and success for all students in the California Community Colleges. This chapter sets forth minimum standards for district matriculation programs and further elaborates requirements for the assessment component of matriculation.

(b) The requirements of this chapter apply only to districts receiving funds pursuant to Education Code Section 78216 for the period of time during which such funds are received. The Chancellor shall, in consultation with districts and other interested parties, adopt a schedule for implementing the provisions of this chapter as expeditiously as possible within the constraints of available funding. The schedule shall be coordinated with the implementation and funding of the systemwide management information system and the

accountability mechanisms established pursuant to Education Code Section 71020.5.

(c) Minimum standards for the enforcement of this chapter, as set forth in Section 51024, shall not become effective until the Chancellor certifies, in accordance with established policies of the Board of Governors, that matriculation has been fully funded. Until that time, the Chancellor shall ensure that funds allocated to community college districts pursuant to Education Code Section 78216 are used in accordance with district matriculation plans developed as provided in Section 55510.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Sections 71020.5, 78210-78218, Education Code.

2. Section 55502 of Chapter 6 of Division 6 of Part 6 of Title 5 is amended to read:

**55502. Definitions.**

For purposes of this chapter, the following definitions shall apply:

(a) "matriculation" means a process that brings a college and a student who enrolls for credit into an agreement for the purpose of realizing the student's educational goal through the college's established programs, policies, and requirements. This agreement is to be implemented by means of the student's individual educational plan developed pursuant to Section 55525.

(b) "assessment" means the process of gathering information about individual students to facilitate student success. Assessment may include, but is not limited to, information regarding the student's study skills, English language proficiency, computational skills, aptitudes, goals, learning skills, career aspirations, academic performance, and need for special services. Assessment involves the collection of such information at any time, before or after enrollment, except that the process of assigning a grade by an instructor shall not be considered part of the assessment process. Once a grade has been assigned and recorded in a student's transcript it can be used in the assessment process.

(c) "assessment instruments, methods or procedures" means one or more assessment instruments, assessment methods, or assessment procedures, or any combination thereof. These include, but are not limited to, interviews, standardized tests, holistic scoring processes, attitude surveys, vocational or career aptitude and interest inventories, high school or college transcripts, specialized certificates or licenses, educational histories and other measures of performance. The term "assessment instruments, methods or procedures" also includes assessment procedures such as the identification of test scores which measure particular skill levels, the administrative process by which students are referred for assessment, the manner in which assessment sessions are conducted, the manner in which assessment results are made available, and the length of time required before such results are available.

(d) "pre-collegiate basic skills courses" are those courses in reading, writing, computation, learning skills, study skills, and English as a Second Language which are designated by the community college district as nondegree credit courses pursuant to Section 55002(b) of this Part.

(e) "disproportionate impact" occurs when the percentage of persons from a particular racial, ethnic, gender, age or disability group who are directed to a particular service or placement based on an assessment instrument, method or procedure is significantly different than the representation of that group in the population of persons being assessed and that discrepancy is not justified by empirical evidence demonstrating that the assessment instrument, method or procedure is a valid and reliable predictor of performance in the relevant educational setting.

(f) "exemption" means waiving or deferring a student's participation in orientation, assessment, counseling or advisement required pursuant to subsections (b), (c), and (d) of Section 55520.

(g) "matriculation services" are those services listed in Section 55520.

(h) "matriculation practices" means one or more instruments, methods or procedures, or any combination thereof, used in providing any of the matriculation services listed in Section 55520.

(i) "student" means a person enrolled in at least one credit course.

(j) "orientation" is a process which acquaints students and potential students with college programs, services, facilities and grounds, academic expectations, and institutional procedures.

(k) "student follow-up" is the process of monitoring a student's progress toward his or her educational goals and providing the student with appropriate advice based on the results of such monitoring.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Sections 78212 and 78213, Education Code.

## Article 2. Planning and Administration

**55510. Matriculation Plans.**

(a) Each community college district shall adopt a matriculation plan describing the services to be provided to its students. The plan shall include, but not be limited to, a description of the methods by which required services will be delivered, the district's budget for matriculation, plans for faculty and staff development, computerized information services and institutional research and evaluation necessary to implement this chapter, criteria for exempting students from participation in the matriculation process, procedures for establishing and validating prerequisites pursuant to Section 58106, and, in districts with more than one college, arrangements for coordination by the district of the matriculation plans of its various colleges.

(b) The plan shall be developed in consultation with representatives of, faculty, students, and staff with appropriate expertise.

(c) Such plans shall conform to the requirements of this chapter and shall be submitted to the Chancellor for review and approval. Plans submitted prior to the effective date of this section need not be revised or resubmitted, if the Chancellor finds that they meet the requirements of this chapter. Regardless of when plans are initially submitted, the Chancellor may require periodic updates of such plans.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Section 78216, Education Code.

3. Section 55512 of Chapter 6 of Division 6 of Part 6 of Title 5 is amended to read:

**55512. Evaluation and Audits.**

(a) Each community college district shall establish a program of institutional research for ongoing evaluation of the effectiveness of its matriculation process to ensure compliance with the requirements of this chapter.

As part of this evaluation, all assessment instruments, methods or procedures shall be evaluated to ensure that they minimize or eliminate cultural or linguistic bias and are being used in a valid manner. Based on this evaluation, districts shall determine whether any assessment instrument, method or procedure has a disproportionate impact on particular groups of students described in terms of ethnicity, gender, age or disability, as defined by the Chancellor. When there is a disproportionate impact on any such group of students, the district shall, in consultation with the Chancellor, develop and implement a plan setting forth the steps the district will take to correct the disproportionate impact. The evaluation shall include, but not be limited to, an analysis of the degree to which the matriculation program:

(1) impacts on particular courses, programs, and facilities;

(2) helps students to define their educational goals;

(3) promotes student success, as evidenced by outcome and retention data such as student persistence, goal attainment, skill improvement, and grades;

(4) assists the district in the assessment of students' educational needs;

(5) matches district resources with students' educational needs; and

(6) provides students with the support services described in Section 55520(g).

(b) Each district shall also, as part of its annual financial audit, provide for a review of the revenue and expenditures of the matriculation program.

(c) The Chancellor shall establish a system for evaluation of the matriculation program on a statewide basis, including procedures for monitoring compliance with district plans and the requirements of this chapter.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Sections 78214 and 78217, Education Code.

4. Section 55514 of Chapter 6 of Division 6 of Part 6 of Title 5 is amended to read:

**55514. Data Collection.**

Each community college district shall submit an annual report describing the district's efforts to implement its matriculation plan and expenditures made for that purpose. In this report, or through the established management information system or otherwise, the district shall submit to the Chancellor the data to be collected for evaluation purposes pursuant to Education Code Section 78214 and Section 55512 of this Part. Such data shall specifically include, but is not limited to, the information necessary to permit the Chancellor to determine the following:

(a) the proportion of students from various ethnic, gender, age or disability groups, as defined by the Chancellor, who are placed in pre-collegiate, associate degree applicable, or transfer level courses in reading, writing, computation or English as a Second Language;

(b) the proportion of ethnic, gender, age and disability groups, as defined by the Chancellor, who enter and complete pre-collegiate basic skills courses;

(c) the proportion of ethnic, gender, age and disability groups, as defined by the Chancellor, completing pre-collegiate basic skills courses who subsequently enter and complete courses applicable to the associate degree;

(d) outcome and retention data, as described in Section 55512(a), indicating the effectiveness of matriculation;

(e) the basis on which the use of particular assessment instruments, methods or procedures was validated by a district;

(f) the numbers of students exempted, pursuant to Section 55532, from participation in the district's matriculation program by category of exemption;

(g) the number of students filing complaints pursuant to 55534 and the bases of those complaints;

(h) the particular matriculation services, as listed in Section 55520, which each student received; and

(i) any other matter the Chancellor, after consultation with community college districts, deems necessary for the effective evaluation of matriculation programs.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Section 78214, Education Code.

**55516. Training and Staff Development.**

Each community college district shall develop and implement a program for providing all faculty and staff with training in appropriate to their needs on the provision of matriculation services, including but not limited to, the proper purpose, design, evaluation, and use of assessment instruments, methods or procedures, as well as their limitations and possible misuse.

**NOTE:** Authority cited: Sections 66700 and 70901, Education Code. Reference: Section 78216, Education Code.

5. Section 55518 is added to Chapter 6 of Division 6 of Part 6 of Title 5 to read:

**55518. Funding.**

(a) The Chancellor shall adopt a funding formula, consistent with the requirements of this Section, for allocating matriculation funds to community college districts complying with the requirements of this chapter.

(b) Each dollar of state matriculation funding shall be matched by three dollars of other district resources devoted to the matriculation program.

**NOTE:** Authority cited: Sections 66700 and 70901, Education Code. Reference: Section 78216, Education Code.

## Article 3. Matriculation Services

6. Section 55520 of Chapter 6 of Division 6 of Part 6 of Title 5 is amended to read:

**55520. Required Services.**

At a minimum, each community college district shall provide students, except as exempted pursuant to Section 55532, all of the following matriculation services:

(a) the processing of applications for admission;

(b) orientation and pre-orientation services designed to provide nonexempt students and potential students, on a timely basis, information concerning college procedures and course scheduling, academic expectations, financial assistance, and any other matters the college or district finds appropriate;

(c) assessment for all nonexempt students pursuant to Section 55524;

(d) counseling or advisement for nonexempt students pursuant to Section 55523;

(e) assistance in developing a student educational plan, pursuant to Section 55525, which identifies the student's educational goals and the courses, services, and programs to be used to achieve them;

(f) postenrollment evaluation, pursuant to Section 55526, of each student's progress; and

(g) referral of students to:

(1) support services which may be available, including, but not limited to, counseling, financial aid, health services, campus employment placement services, Extended Opportunity Programs and Services, campus child care services, tutorial services, and Disabled Student Programs and Services; and

(2) specialized curriculum offerings including but not limited to, pre-collegiate basic skills courses and programs in English as a Second Language.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Section 78212, Education Code.

7. Section 55521 of Chapter 6 of Division 6 of Part 6 of Title 5 is amended to read:

**55521. Prohibited Practices.**

In implementing matriculation services, community college districts shall not do any of the following:

(a) use an assessment instrument which has not been approved by the Chancellor pursuant to Section 55524, except that the Chancellor may permit limited field-testing, under specified conditions, of new or alternative assessment instruments, where such instruments are not used for placement and are evaluated only in order to determine whether they should be added to the list of approved instruments;

(b) use any assessment instrument in a manner or for a purpose other than that for which it was developed or has been otherwise validated;

(c) use any single assessment instrument, method or procedure, by itself, for placement, required referral to appropriate services, or subsequent evaluation of any student; provided however that, in the case of assessment instruments, the use of two or more highly correlated instruments does not satisfy the requirement for use of multiple measures;

(d) use any assessment instrument, method or procedure to exclude any person from admission to a community college;

(e) use any assessment instrument, method or procedure for mandatory placement of a student in or exclusion from any particular course or educational program, except that districts may establish appropriate prerequisites pursuant to Sections 55002 and 58106 of Division 9 of this Part; or

(f) use any matriculation practice which has the purpose or effect of subjecting any person to unlawful discrimination prohibited by Chapter 5 (commencing with Section 59300) of Division 10 of this Part.

NOTE: Authority cited: Section 11138, Government Code; Sections 66700, 70901 and 84500.1, Education Code. Reference: Section 11135, Government Code; Sections 72011, 78211, 78213, and 84500.1, Education Code.

**55522. Special Accommodations.**

Matriculation services for ethnic and language minority students and students with disabilities, shall be appropriate to their needs, and community college districts shall, where necessary, make modifications in the matriculation process or use alternative instruments, methods or procedures to accommodate the needs of such students. Districts may require students requesting such accommodations to provide proof of need. Extended Opportunity Programs and Services (EOPS) and Disabled Students Programs and Services (DSPS) are authorized, consistent with the provisions of Chapter 1

(commencing with Section 56000) and Chapter 2.5 (commencing with Section 56200) of Division 7 of this part, to provide specialized matriculation services and modified or alternative matriculation services to their respective student populations. Notwithstanding this authorization, participation in the EOPS and DSPS programs is voluntary and no student may be denied necessary accommodations in the assessment process because he or she chooses not to use specialized matriculation services provided by these programs. Modified or alternative matriculation services for limited or non-English-speaking students may be provided in English as a Second Language programs.

NOTE: Authority cited: Section 11138, Government Code; Sections 66700, 70901, and 84500.1, Education Code. Reference: Section 11135, Government Code; Sections 72011, 78211, 78213, and 84500.1, Education Code.

8. Section 55523 is added to Chapter 6 of Division 6 of Part 6 of Title 5 to read:

**55523. Counseling and Advisement.**

(a) If not already required to do so by the minimum standards for counseling services set forth in Section 51018 of Division 1 of this Part, each community college district shall do all of the following:

(1) make reasonable efforts to ensure that all nonexempt students who are on probation participate in counseling as provided in Section 55759 of this Part;

(2) make reasonable efforts to ensure that all nonexempt students who have not declared a specific educational goal participate in counseling to assist them in the process of selecting a specific educational goal pursuant to Section 55525;

(3) make reasonable efforts to ensure that all nonexempt students who are enrolled in pre-collegiate basic skills courses participate in counseling or advisement; and

(4) make available to all students, as defined in Section 55502(i), advisement or counseling on general academic requirements and the selection of specific courses by counselors or appropriately trained instructor/advisors and/or other appropriately trained staff working in consultation with counselors.

(b) Counseling by appropriately trained counselors or advisement by appropriately trained staff may also be made available in any other area the district deems appropriate, including but not limited to, the interpretation of assessment results and the development of a student's educational plan as required by Section 55525.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Section 78212, Education Code.

**55524. Assessment.**

The Chancellor shall establish and update, at least annually, a list of approved assessment instruments and guidelines for their use by community

college districts. These guidelines shall identify modifications of an assessment instrument or the procedures for its use which may be made in order to provide special accommodations required by Section 55522 without separate approval by the Chancellor. Such guidelines shall also describe the procedure by which districts may seek to have assessment instruments approved and added to the list. The Chancellor shall ensure that all assessment instruments included on the list minimize or eliminate cultural or linguistic bias, are normed on the appropriate populations, yield valid and reliable information, identify the learning needs of students, make efficient use of student and staff time, and are otherwise consistent with the educational and psychological testing standards of the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Section 78213, Education Code.

9. Section 55525 is added to Chapter 6 of Division 6 of Part 6 of Title 5 to read:

**55525. Student Educational Plan.**

(a) Each community college district shall establish a process for assisting students to select a specific educational goal within a reasonable time after admission as required by Section 55530(d). This shall include, but not be limited to, the provision of counseling as required by Section 55523(a)(2).

(b) Once a student has selected a specific educational goal, the district shall afford the student the opportunity to develop a student educational plan describing the responsibilities of the student, the requirements he or she must meet, and the courses, programs, and services required to achieve the stated goal.

(c) The student educational plan developed pursuant to subsection (b) shall be recorded in written or electronic form. The plan, and its implementation shall be reviewed as necessary to ensure that it continues to accurately reflect the needs and goals of the student.

(d) If a student believes the district has failed to make good faith efforts to develop a plan, has failed to provide services specified in the student educational plan, or has otherwise violated the requirements of this Section, the student may file a complaint pursuant to Section 55534(c).

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Section 78212, Education Code.

10. Section 55526 is added to Chapter 6 of Division 6 of Title 5 to read:

**55526. Student Follow-up.**

Each community college district shall establish a student follow-up process to assist the student in achieving his/her educational goal. The follow-up system shall ensure that the academic progress of each student is regularly monitored to detect early signs of academic difficulty and students shall be provided with advice or referral to specialized services or curriculum offerings where necessary. Districts shall also identify and refer to counseling or advisement, as appropriate pursuant to Section 55523(a), any students who have not declared a specific educational goal as required by Section 55530, who are enrolled in pre-collegiate basic skills courses, or who have been placed on probation.

NOTE: Authority cited: Sections 66700 and 70901, Education Code. Reference: Section 78212, Education Code.

**Article 4. Appeals, Waivers, Student Rights and Responsibilities**

11. Section 55530 of Chapter 6 of Division 6 of Part 6 of Title 5 is amended to read:

**55530. Student Rights and Responsibilities.**

(a) Nothing in this chapter shall be construed to interfere with the right of a student, if admitted to a community college in accord with district admission policies adopted pursuant to Education Code Section 76000 et seq., from enrolling in any course for which he or she can meet necessary and valid prerequisites, if any, which have been established pursuant to the requirements of Section 58106 of Division 9 of this Part.

(b) Community college districts shall take steps to ensure that information, in written form, is available to all students, in class schedules, catalogs or other appropriate publications, describing their rights and responsibilities under this chapter.

(c) Districts shall also take steps to ensure that the matriculation process is efficient so that students are not discouraged from participating in college programs. Whenever possible, students should be permitted to avoid additional testing by submitting scores on recently taken tests which correlate with those used by the district.

(d) Students shall be required to express at least a broad educational intent upon admission, declare a specific educational goal within a reasonable period after admission, participate in counseling or advisement pursuant to Section 55523(a)(1), (2), and (3), diligently attend class and complete assigned coursework, and complete courses and maintain progress toward an educational goal according to standards established by the district, consistent with the requirements of Chapter 9 (commencing with Section 55750) of Division 6 of this Part. The governing board of each community college district shall adopt clear written policies, not inconsistent with law, specifically defining these

responsibilities of students and the consequences of failure to fulfill such responsibilities. This policy shall define the period of time within which a student must identify a specific educational goal as required by this subsection, provided however, that all students shall be required to declare such a goal during the term after which the student completes 15 semester units or 22 quarter units of degree applicable credit coursework, unless the district policy establishes a shorter period. Once the student has developed a specific educational goal, the district must provide the student with an opportunity to develop a student educational plan pursuant to Section 55525. Student responsibilities shall also be identified in the student's educational plan developed pursuant to Section 55525. If a student fails to fulfill the responsibilities listed in this subsection, fails to cooperate with the district in the development of a student educational plan within 90 days after declaring his/her specific educational goal, or fails to abide by the terms of his/her student educational plan, the district may, subject to the requirements of this chapter, suspend or terminate the provision of services authorized in Section 55520; provided however, that nothing in this section shall be construed to permit a district to suspend or terminate any service to which a student is otherwise entitled under any other provision of law.

(e) Information obtained from the matriculation process shall be considered student records and shall be subject to the requirements of Chapter 6 (commencing with Section 54600) of Division 5 of this Part.

NOTE: Authority cited: Sections 66700, 70901 and 84500.1, Education Code. Reference: Sections 76000, 76001, 76001.5, 78212 and 84500.1, Education Code.

12. Section 55532 of Chapter 6 of Division 6 of Part 6 of Title 5 is amended to read:

**55532. Exemptions.**

(a) Community college districts may elect to exempt certain students from participation in orientation, assessment, counseling or advisement as required by subsections (b), (c), or (d) of Section 55520. Each such district shall establish policies specifying the grounds for exemption. Such policies shall be identified in the matriculation plan required under Section 55510 and the number of students so exempted shall be reported, by category, to the Chancellor pursuant to Section 55514.

(b) District policies may exempt from orientation, assessment, counseling, or advisement any student who has completed an associate degree or higher.

(c) Any student exempted pursuant to this Section shall be notified that he or she is covered by an exemption and shall be given the opportunity to choose whether or not to participate in that part of the matriculation process.

(d) District policies may not use any one of the following as the sole criterion for exempting any student who does not wish to participate:

(1) the student has enrolled only in evening classes;

(2) the student has enrolled in fewer than some specified number of units;
(3) the student is undecided about his or her educational goals; or
(4) the student does not intend to earn a degree or certificate.

(e) As part of the statewide evaluation provided for under subsection (c) of Section 55512, the Chancellor shall analyze and recommend necessary changes regarding the impact on the matriculation program of the exemption policies adopted by community college districts.

NOTE: Authority cited: Sections 66700, 70901, and 78215, Education Code. Reference: Section 78215, Education Code.

**55534. Violations, Waivers and Appeals.**

(a) Where students are required by a community college district to meet prerequisites under Section 58106(b)(2) or (b)(3), a student may object to such requirement on the grounds that the necessary course is not available. The district shall promptly (within 5 working days) determine whether, the required course was available and if not, the district shall waive the *prerequisite* for that term.

(b) An allegation that a community college district has violated the provisions of subsection (f) of Section 55521 or has established a discriminatory prerequisite subject to challenge under subsection (d)(3) of Section 58106 shall be considered a complaint of unlawful discrimination and shall be filed, investigated and resolved pursuant to Chapter 5 (commencing with Section 59300) of Division 10 of this part.

(c) Each community college district shall establish written procedures by which students may challenge any other alleged violation of the provisions of this chapter or of Section 58106. Districts shall investigate and attempt to resolve any such complaints. Such complaint procedures may, by action of the governing board, be consolidated with existing student grievance procedures. Records of all such complaints shall be retained for at least three years after the complaint has been resolved and shall be subject to review by the Chancellor as part of the statewide evaluation required under Section 55512(c).

NOTE: Authority cited: Section 11138, Government Code; Sections 66700 and 70901, Education Code. Reference: Sections 11135-11139.5, Government Code; Sections 78211, and 78213, Education Code.

13. Section 58106 is added to Chapter 2 of Division 9 of Title 5 to read:

**58106. Prerequisites and Other Limitations On Enrollment.**

(a) In order to be claimed for purposes of State apportionment, all courses shall be open to enrollment by any student who has been admitted to the college, except that students may be required to meet necessary and valid prerequisites established pursuant to this section. In addition, a community college district may also limit enrollment in a course based on health and safety

considerations, facility limitations, or legal requirements imposed by statute or regulations. The district governing board shall adopt policies identifying any such requirements and establishing fair and equitable procedures for determining who may enroll in affected course. Such procedures may:

(1) limit enrollment on a "first come first served" basis or utilize other nonevaluative selection techniques to determine who may enroll; or

(2) limit enrollment to those students capable of meeting relevant skill prerequisites established pursuant to subsection (b)(3) of this section.

(b) Upon recommendation by the curriculum committee, pursuant to section 55002 of this Part, a district may, subject to the conditions set forth in subdivision (c), require completion of any of the following types of prerequisites:

(1) It is permissible to require, as a prerequisite, the completion of any course in a sequence of related courses in a given discipline in which understanding or technical performance in such course is necessary for success in later courses in the sequence.

(2) As used in this section, the term "prerequisite" also includes "corequisites" which require a student to concurrently enroll in one course as a condition of enrollment in another course. A student may be required to concurrently enroll in a corequisite only when the college has conducted a comprehensive assessment of the student using multiple measures and the objectives of the courses are clearly complementary, the interrelation of the units of instruction is evident, and completion of the corequisite is necessary for success in the related course. In addition, community college districts shall ensure that corequisite courses are available at the college in sufficient numbers to accommodate all students who are required to take them.

(3) Prerequisites may be defined in terms of skills measured by relevant assessment instruments, methods or procedures where the required level of performance is necessary to success in a particular course or program and the assessment instruments are selected and used in accordance with the provisions of Chapter 6 (commencing with Section 55500) of Division 6 of this part. Community college districts shall ensure that pre-collegiate basic skills courses designed to teach required skills are available to accommodate students required to meet the associated skill prerequisites. Any student obtaining a satisfactory grade in such a pre-collegiate basic skills course shall be deemed to meet the associated skill prerequisite.

(4) Eligibility for enrollment in entry level associate degree courses in English and/or mathematics may be used as a prerequisite where communication or computation skills are necessary for success in a course.

(c) No prerequisite described in subdivision (b) may be imposed unless it conforms to all of the following requirements:

(1) Prerequisites shall not state or imply that enrollment in a course is limited to a specialized clientele unless such limitation is directly and specifically authorized by statute or regulation.

(2) Prerequisites for a course shall be clearly related to course content and must be validated as being necessary to for success in such course. A sequential coursework prerequisite described in subdivision (b)(1) need not be validated if

it was established prior to the effective date of this section or is required to ensure transferability of subsequent courses to a four-year institution.

(3) Prerequisites involving experience requirements may not be established solely on the basis of "hours of exposure."

(4) Community college districts may not establish communication or computational skills prerequisites which apply across the entire curriculum.

(d) Any prerequisite may be challenged by a student, using the procedures provided for in subsections (b) and (c) of Section 55534 on one or more of the following grounds:

(1) the prerequisite is not valid because it is not necessary to success in the course for which it is required;

(2) the student has the knowledge or ability to succeed in the course despite not meeting the prerequisite; or

(3) the prerequisite is discriminatory or is being applied in a discriminatory manner.

(e) Districts shall adopt policies and procedures for validating prerequisites in accord with the provisions of this section. The Chancellor shall, as part of the evaluation required pursuant to Section 55512(c), review district policies and procedures for validation of prerequisites.

(f) Notwithstanding the provisions of this section, prerequisites for Work Experience shall be as stated in Chapter 3 (commencing with Section 55250) of Division 6 of this part.

NOTE: Authority cited: Sections 66700, 70901, and 84500.1, Education Code. Reference: Sections 78211, 78213, and 84500.1, Education Code.

# APPENDIX C

## THE STATEWIDE EVALUATION OF MATRICULATION

## THIRD-YEAR REPORT ON PROGRAM IMPLEMENTATION, 1989-90

*(Conclusions and Recommendations)*

Submitted by

THE EVALUATION & TRAINING INSTITUTE

January 1991

# APPENDIX C

# CONCLUSIONS AND RECOMMENDATIONS

On the basis of our evaluation of the implementation of matriculation over the past three years, we draw the following conclusions:

- **In implementing matriculation, the Board of Governors and local colleges have gone beyond the requirements of AB 3 to attempt to provide students with a broader scope of services than described in the original legislation.**

The generation of individual student education plans and orientation course offerings are prime examples of how the Board of Governors and the colleges have expanded upon the requirements of AB 3 to propose the delivery of more comprehensive and intensive services to students. We believe these efforts are evidence of the Chancellor's Office's and colleges' commitment to the concept of matriculation, and their responsiveness to the needs of community college students. The implementation of this expanded form of matriculation, has also meant that the program is costing more than originally anticipated.

- **The implementation of matriculation was severely delayed by the reduction of state funding provided for the initial two program years.**

The major consequence of the reduction in state funding for the 1987-88 program year was the generation of skepticism regarding future allocations for matriculation. This skepticism, in conjunction with delays in receipt of the funds by the colleges, led many campuses to postpone implementation of the program until 1988-89. Continued reductions in state funding in 1988-89 caused most colleges to again scale back their plans for implementation either with respect to the numbers of students served and/or the degree to which individual program components were implemented.

The major implication of these delays is that a comprehensive evaluation of the effectiveness of matriculation upon student success cannot be made at this time. The current target date for full implementation is June 30, 1991, although even then the colleges will not be required to have a fully operational program of institutional research. Additionally, many colleges

are awaiting the release of the list of approved assessment instruments in July, 1991, before they make final decisions regarding their assessment processes.

- **Delays in the implementation of the Statewide MIS and deficiencies in the data processing capabilities of the local districts/colleges also have been major barriers in the implementation of matriculation.**

As we have discussed in this and prior reports, the successful implementation of matriculation is dependent upon adequate data processing support. In addition to the requirements for matriculation, the colleges also confronted the task of implementing the Statewide MIS. Many colleges simply did not have the hardware or software necessary to respond to these new requirements and were forced to identify, develop and/or install new computer systems. The installation of a new computer system is a major undertaking for any organization, and generally requires a minimum of two years for planning, development, implementation and testing. De-funding of the MIS further delayed this lengthy process since the colleges had to await final system specifications for the state system before they could proceed with their own systems development.

Our site visits and telephone interviews with matriculation coordinators indicate that the majority of colleges still do not have the data processing capabilities necessary to support matriculation. The major implication of this situation for the evaluation of matriculation is that the data necessary for the comprehensive evaluation of the program dictated in AB 3 will not be available for at least one to two more years.

- **Despite delays in program implementation, matriculation has increased the delivery of services to community college students and focused the colleges upon student needs.**

The community colleges were providing matriculation related services to students prior to the implementation of the program. These services, however, were offered to a more limited number of students and were not delivered in as systematic of fashion as they are under matriculation. Our analysis of data reported by the colleges and our site visits to individual

campuses, however, convince us that there has been a significant increase in the numbers of students receiving orientation, assessment and counseling services and in the range of services being provided under each of these components.

- **Matriculation has not reduced access to the community colleges, nor has it excluded students from educational programs or services.**

AB 3 and the Title V Matriculation Regulations specify that matriculation must not serve as a barrier to anyone wishing to enroll in a community college. Our review of enrollment data, discussions with matriculation coordinators and site visits to local colleges indicate that the program has not reduced access, nor have significant numbers of students complained about the process. Indeed, a few local studies of students' perceptions of the process conducted by individual colleges indicate that students recognize the importance and benefits of the program.

- **Matriculation has brought to light the extensive need for remediation among community college students and the current limited ability of the colleges to meet that need.**

We cannot provide data on the number of students identified as lacking the skills necessary for enrollment in college level math and English courses, although this information should ultimately be available through the Statewide MIS. Our visits to individual campuses suggest, however, that at many colleges the number is quite significant. At one site visit institution with a high enrollment, we were told that 85 percent of all incoming students were identified as needing basic skills instruction.

In their 1989-90 progress reports, over one-half of the colleges reported that they were unable to provide remedial instruction to all students requiring it, despite that fact that basic skills course offerings had been increased by an average of 25 percent. We believe that the success of matriculation in helping students to achieve such objectives as transfer to a four year college or completion of a degree will ultimately be dependent upon the ability of the colleges to meet students' need for remediation.

- **The colleges have displayed limited ability to meet the institutional research requirements of matriculation, and it will be some time before a comprehensive program of local institutional research exists.**

Prior to the implementation of matriculation, most colleges, particularly the smaller campuses, did not conduct institutional research. Even at several multi-campus districts where a research unit had been established, the focus of these units' activities had been the compilation and reporting of data, and not data analysis or research. Our site visits to the campuses and discussions with local college staff at workshops and other meetings also indicated that, in general, the resources and expertise necessary to conduct institutional research were lacking at most campuses.

In response to funding limitations, the majority of colleges have focused upon implementation of the direct service components of matriculation, i.e., orientation, assessment, counseling and to a more limited extent follow-up. As a result, the implementation of institutional research continues to lag. We believe that, without a major effort to develop and establish a research program by the Chancellor's Office, most campuses will not be conducting meaningful institutional research any time in the near future. This fact further postpones a comprehensive and in-depth evaluation of the impact of the program upon student success.

- **The leadership and support provided by the Chancellor's Office in the implementation of matriculation has increased markedly over the three year period of the evaluation, and we now believe the Chancellor's Office is effective in fulfilling its role.**

We have discussed the improvements of the Chancellor's Office's overall coordination of the implementation of matriculation in a prior section. Currently, we believe the Matriculation Unit is providing the level of support required for overall coordination, although, as indicated above we believe they must provide additional assistance to local colleges in the development of the institutional research component.

# RECOMMENDATIONS

On the basis of our findings, we make the following recommendations regarding matriculation:

1. **A summative evaluation of matriculation assessing the utility of matriculation services to students with differing educational objectives should not be conducted until at least 1992-93.**

This delay in fulfilling the evaluation requirements of AB 3 is necessitated by the delays in program implementation and the implementation of the Statewide MIS, which should serve as the principal data source for this type of evaluation. In many respects, even 1992-93 may be too early for a full evaluation of the program. Recent studies suggest that it may take as long as four or five years for a student to obtain their educational objectives at the community college level. Given that many colleges will not be able to identify which students received matriculation services prior to 1990-91, the numbers of students for which complete data are available to assess whether or not they have attained their educational objectives may not be adequate even in 1992-93.

2. **If the Chancellor's Office and colleges are to continue to provide expanded matriculation services, additional program funding should be provided by the state.**

As mentioned previously, the Chancellor's Office has recently completed a cost study of matriculation which projects program costs based upon an expanded model of program services. In this study it was also recommended that the Chancellor's Office and the colleges seek additional resources so the proposed program standards could be fully implemented. We concur that if the colleges continue to provide the relatively ambitious level of service recommended in the Board of Governors' Plan and proposed in many local college plans, that additional funding from the state will be required.

3. **The Chancellor's Office should conduct a study of the need for remediation among community college students, the current capability of the colleges to respond to this need and the additional resources required, if any, to address this problem in the future.**

We believe that the large number of students identified as requiring remediation and the limited capability of over one-half of the colleges reported to meet this need present the greatest threat to students' achievement of their educational objectives. If students are unable to enroll in basic skill courses, they cannot progress into college level courses. Alternatively, students may enroll in courses for which they are ill prepared, perpetuating the high drop-out rates which, in part, gave rise to the matriculation legislation in the first place.

In order to address this problem, we believe the Chancellor's Office needs to gather more information on the extent of the problem and the costs of addressing it. As such, we recommend that a study be conducted to

provide some estimate of the numbers of students requiring remediation, the current capacity of the colleges to serve these students, and the costs for increasing this capacity, if it is found to be necessary.

4. **The Chancellor's Office should work with local colleges to develop an integrated program of institutional research at the state and local levels which will meet the requirements of AB 3.**

As discussed above, the implementation of institutional research has lagged behind all other components. On the basis of our visits to the colleges and discussions with local college staff, we believe that the campuses require major assistance in establishing effective programs of institutional research. According to the 1989-90 progress reports submitted by the colleges, the basic data required to conduct a preliminary evaluation of the impacts of the programs are available at most campuses. We believe that the Chancellor' Office must develop a basic design for analyzing this data and disseminate this design to the colleges. In this manner, some standardized information on student outcomes across the state could be generated, while at the same time colleges would have information on the impact of the program on an individual level.



ERIC Clearinghouse for Junior Colleges
APR 05 1991